"TO IMPROVE THE SOIL AND THE MIND,"

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Letter from Prof. Norton.

Analytical Laboratory, Yale College, New-Haven, Conn., Dec. 1, 1849.

EDITORS CULTIVATOR—It is with much pleasure, that I once more commence a series of regular contributions to your columns. My Letters from Europe, continued through nearly three years, with one intermission of three or four months, gave me a species of introduction to your numerous readers, which has since, in many cases, proved not only agreeable, but useful.

In attempting to renew, and as I hope, extend my acquaintance, I have no longer to depend upon the novelty and variety of another continent for the interest of my communications, and must confine my descriptions for the most part, to regions which to us seem more prosaic, in our own land. Yet, after all, this lack of strange people and strange customs in my present letters, will be excused, if my endeavors to illustrate plainly and intelligibly some points of improved scientific agriculture, are successful. This will still, to many of your readers, be traveling in a new country, and writing of things that they have never seen.

The first great work of every person who elevates himself to any of the scientific departments of agriculture, when wishing to make an impression upon practical men, should be to convince them that he regards practice in its proper light; that the results of intelligent experience are always considered by him worthy of attention. Let me then say at nce, that I look upon science as an auxiliary to ractice. We all know that good corn and wheat may be grown, and have been grown, by men who scorn the very name of science; that large cattle may be fatted, that good plowing may be done by them. We know that the world has been fed even to this day, by the skill of farmers, who would be called by some scientific enthusiasts, men utterly gnorant of first principles. So they were of first scientific principles; they could not mention in scientific language, the proper angle at which the axe should enter the tree, but they could show it sunk to the helve; they could not name the substances that make up the straw and grain of wheat, but could point to fields yellow for the harvest; they could furnish food for themselves and families, where Liebig and Johnston together, with all their science, would find it difficult, unassisted, to sustain even their own lives.

Thus much I acknowledge, practice can do without science, but science cannot do without practice.

The question now comes up, would not both be benefitted by union? I have said that practice can do without science, but would it not do better with its assistance? The practical man can raise good crops and good animals, can keep his farm supplied with good implements, but could he not work to better advantage and with more certainty, if he knew more as to the nature of his animals, the com position of his crops and soils? Can any reasonable man deny that knowledge upon these points. would be an immense advantage to him in every department of his farming operations? The most prejudiced opponent of innovation, will, I think, scarcely attempt to controvert this general proposition. Once admitted, they cannot consistently refuse attention to an explanation of particular points, to proofs that a majority of practical men are ignorant of much that they ought to know, even with regard to common details of their profession. After what has already been written, this remark will not be misunderstood; it will be seen that I do not intend to deery practice, but to say that it is far from perfect, and may be decidedly improved by the addition of a little scientific knowledge.

It may be objected that this knowledge is unintelligible to the ordinary farmer; that it only confuses, and thus leads him into numberless errors; but I think that the main features involved in the applications of science, may be made simple and plain to all; this has been proved in the works of Prof. Johnston, where a vast amount of knowledge, gained by the researches of scientific men, is presented in a perfectly simple and practical form.

The great difficulty is, that most writers on such subjects introduce many hard words, and rather obseure theoretical views; these, together with an absence of direct practical application, discourage the plain farmer at the outset; he says-" I can make my living as my fathers have done, without worrying my brains over this book learning, which after all, may be perfect nonsense." My object has been and always will be, to explain everything, so that the farmer can think for himself, and can see whether any new views presented really have a practical bearing or not. The next great difficulty, after simplicity of language has been attained, lies in the fact that in a single letter, it is impos sible to embrace all of any particular subject or de partment. There are some points almost alway. left unexplained, or some details omitted, which are necessary to the uninstructed reader. For this reason, I have decided to take up a particular subject, and continue it through several letters, or as many as may seem needful. Among those that have occurred to me, one of the most important, as well as interesting to the farmer, is that of manures. Some readers may think this a misapplication of the wore interesting, but such cannot be true farmers, for te

all belonging to this class, the word manure is one full of attraction.

I remember a somewhat celebrated Scotch farmer, who, from experience of their effects, had come to like the odors of the most powerful manures. I once saw a bottle opened under his nose, whose contents had the vilest smell that I ever perceived, and my laboratory occupations have given me a somewhat extensive experience in that line. His countenance at once expanded in satisfaction, and he snuffed up the savoury fumes with undisguised delight; "that'll be grand stuff," said he at last, and at once inquired where it could be obtained.

I would not insist that your readers prefer such smells to fresh air, but would like to make them equally keen in their search for fertilising substances. John P. Norton.

Fall and Winter Plowing.

EDS. CULTIVATOR—The relative advantages and utility of fall or spring plowing, is a subject of vast practical importance to the farmer. Each system has its ardent and decided champions, but like every controverted question, the truth belongs exclusively to neither extreme. Either plan, under peculiar circumstances, or modifications of soil, condition and situation, may be best adapted or most desirable. My own observations and reflections have enabled me to adopt rules sufficiently clear and satisfactory for my personal guidance on this branch of farm operations. All other things being equal, fall plowing is expedient for the obvious reasons, that there is more leisure at that season, the business of the farm is not so urgent, and our teams are usually more vigorous and better prepared for the performance of severe and protracted labor.

Clay and other soils of a heavy and firm texture. should, in my judgment, be plowed in the fall, because they require the powerful and nearly indispensable agency of frost to disintegrate the earthy matter, and to decompose the vegetable substances they contain. A long period is also requisite for the operations of frost, water, and heat, by which alone these soils are effectually pulverised. The vast body of vegetation growing on the surface and embraced in the roots and fibres, which is deposited beneath the furrow in these soils, requires a long term for its decomposition. The combined agencies of all these processes in the laboratory of nature, will scarcely be sufficient, to produce the desired friability of these earths, or to effect the de-composition of the heavy turf, in season for the nourishment and vigorous growth of the young plant in the ensuing summer. I prefer to break up hard and stony ground, in the autumn, unless the work can be performed very early in the spring, while the ground is moist and loose. The reasons for this preference will be readily appreciated. The ground is softened by the autumnal rains, and is more readily and with less labor penetrable by the plow; the stones and earth are not so adhesive, and will be more effectually disturbed and exposed to the action of the elements.

The primary object, however, of this communication, is to express my dissent to the habit which is becoming more prevalent, of plowing light soils in the fall. Experience, and careful observation, I may assume, enables me to speak with some confidence and authority on this subject. I consider fall plowing of this class of soils, especially where sand predominates, decidedly pernicious. The loose and permeable character of the soil, peculiarly subject

it, when exposed, to the action of the elements. Hence the percolation of the severe rains of autumn and spring, and the drenching thaws of winter, leach and wash these soils, and bear from them much of their fertilising substances. This consequence results not only when the soil is in its natural state, but even where strong applications of artificial manures have been made. This is technically termed the leaching of light soils. The unbroken turf preserves them from these effects, upon these soils.

In the case of a green sward, fall plowing, except on the very verge of winter, is equally and perhaps more objectionable. I have already stated the fact, that where heavy and compact sward prevails, a long period, and full action of the elements are required to subdue and prepare it to nourish and sustain vegetation. This obvious principle does not apply to the soils of which I am now speaking. The turf of these soils is not adhesive, wants tenacity and strength, and is readily broken and separated by the plow. Frost and rains more freely penetrate them, and more promptly perform their functions. The fermentation which always succeeds the covering of a grass ley, and which, in evolving the ammonia and other gases, is so eminently important in the vigorous growth of the crop, will in the event of fall plowing of light soils, have passed long before the fibres of the young plants have penetrated to its region. Much of the fertilizing influence thus produced, will be lost. The disintegration of the vegetable matter, turned in by the furrow, will have prematurely occurred, and the earth, before the roots of the plant have penetrated it, will have settled into a compact mass.

If it is proposed to occupy a sward land on light soil with Indian corn, my experience would suggest the plan of plowing it immediately before planting. The decomposition of the turf, will then occur at the period when the plant most requires its effects, and the fermentation, connected with that process, will create a genial warmth beneath the furrow, as the roots of the young shoots reach that point, and will communicate to them a rapid and vigorous im-This operation of nature, is accomplished pulse. in the soils to which I am referring, in a few days, but weeks, and perhaps months are necessary to effect the same results in tough, impenetrable or clayey earths. To the influence of these causes, I attribute the marked and rapid changes in the corn crop, which so often gladden the heart of the farmer, when he perceives the sickly yellow of an unpromising field, suddenly assuming the deep green, approaching the black, that mantles his field with beauty, and exhibits a growth of vigor and strength, bearing the sure earnest of a rich harvest. roots of the plants are thus nourished by the warmth and supported by the process to which I have refer-The conclusion of my observations, is that these results would not have been attained by a fall plowing, but would have been defeated. These plowing, but would have been defeated. opinions are derived, not from speculative theory, but are formed from my own observations and ex-

I will mention an additional fact, which has become an unchangeable principle in my system of agriculture. Under no circumstances, and at no season, will I permit a plow to disturb my sandy soils, in a period of drouth or peculiar dryness. No degree of moisture need arrest the plowman on the sand, but to plow when the dust arises from the furrow, I have found uniformly disastrous to the succeeding crop. The prevalence of subsequent rains does not appear to avert the evil consequences. I

am not able to assign philosophical reasons for this effect, nor space to suggest my own speculations on the subject. The fact has been confirmed to my mind by a cause of severe disappointment and chagrin, and I allude to it for the benefit and guidance

After repeated plowing of sandy soils, I have observed that an encrustation is often formed at the usual depth of the furrow, The implement glides along upon this formation as it does upon hard pan or rocky surface. It gradually becomes very firm and impervious, and presents a strong resistance to the plow. It doubtless is produced by a constant plowing at the same depth. The effect is obviously pernicious. The surface water scarcely penetrates it, while it utterly resists the process of the tender roots of grains and vegetables. Hence, unable to derive moisture from beneath this encrustation, the crop necessarily suffers more severely from the heat and drouth. This serious impediment to successful cultivation is evidently the result of bad husbandry, and can be obviated by a more judicious plowing. Without having formed an opinion from experience, my impressions are that the subsoil plow might be introduced under these circumstances of the soil with great advantage. Has this plow been introduced in the cultivation of sandy or light soils, and what are the results? W. C. W. Port Kent, Essex County, N. Y., Dec., 1849.

Intellectual Improvement of the Farmer.

Crushed beneath the supposed superiority of the learned professions, and the wealth and luxuries of trade and commerce, it has been the lot of the farmer, for many years, to find himself looked upon as an inferior man.

That farmers as a class have given grounds for being thus looked upon by the community, cannot be denied; for let any any candid and truth-seeking man look around him among the mass of the agricultural population of our country, and he will find an amount of ignorance that is wholly inexcusable. I mean no offence to my brethren of the plow, who like myself, earn their bread by the sweat of their brows, for I know full well, by experience, how hard it is to earn one's bread, and make any progress in literary pursuits at the same time; but I know as well that many, very many hours are wasted which might be spent in storing the mind with useful knowledge. There is in truth a shocking indifference among farmers as a mass, to the acquirement of intellectual knowledge, and the quicker we are aware of, and acknowledge this fact, the more likely will we be to correct our error.

But if farmers are ignorant, it is not the fault of their vocation. There is no life that can be made more eminently a life of reflection than that of the agriculturist. Living, as he does, in the very "treasure-house of wonders," is there not enough to awaken thought and reflection in him? But alas! too true is it that things so common and familiar as the operations of nature, cease to excite our wonder and admiration. The green grass grows beneath our feet-the bright blossom bursts forth in beauty-the forest waves in rich luxuriance-sunshine and shade are upon our path, and yet we toil on, toil ever, in the pursuit of worldly gain, passing the beautiful unheeded by; and if, perchance, there is now and then, one man amid a group of farmers, who has a soul to look upon the beautiful in nature

or in art, those wise men shake their heads, speak with a sepulchral tone, and prophesy the downfall of him, so recreant to his interest, who dares to let a flower grow upon a spot that might have grown a blade of grass or grain!

But let us hope that the dark night is passing away-let us hope that a bright day is dawning upon us and upon our children, and let us prepare for them, at least, if it be too late for us, a wider range of education-finer tastes and deeper sensibi-

The good work has begun-there seems to be a general stir upon the subject of educating the farmer—the text is in every man's mouth; let it go on-ward—let ways and means be devised for educating the mass of farmers, and let it no longer be necessary for lawyers, doctors, ministers-any body else but farmers, to deliver addresses, or make speeches upon the subject of agriculture. Let farmers understand their own business, both theoretically and practically, and let them be able to tell what they do know, when it is required of them.

I do not say all this because I think it so enviable a lot to give an address or make a speech, but I say it in sorrow for that ignorance among those who are strictly called practical farmers, that caused the necessity for calling in the aid of others to do what

they themselves felt their inability to do.

Truly hath it been said that the farmers have done everything for others, and nothing for themselves. Had it been done with a noble and benevolent spirit, we might be joyful for the goodness that led to Were it a noble sacrifice of selfishness for the benefit of our fellow man, we might glory in the disinterestedness that prompted it. But alas! can we plead this? Oh no; ignorance, ignorance—nothing but ignorance of the grossest kind has caused their elevation and our shame. It is only by a thorough system of education, both moral and intellectual, that we can attain the position which of right belongs to us. We call upon the farmers then of every state in this wide Union, to awake from their lethargy—we beg of them to plan and devise means for the improvement of themselves and their children. We call too upon all good citizens to aid us in this endeavor. The education of farmers is not a thing that alone concerns him; it concerns the welfare of the whole country. We are here now in the midst of peace and prosperity, but still we think that he who has looked far into the future, may discover upon the horizon some clouds, which though now "no bigger than a man's hand," are destined to gather and burst in fury over our own beloved homes. Perhaps no sagacity of any party can prevent the storm, but it is better to meet it well prepared than not to be prepared at all. And what must that preparation be? I answer-the universal education of all classes in the community. In a republic, if any where, we must have an intelligent people. Monarchies and aristocracies may support themselves through the wisdom and tact of their rulers, kings, and princes, without the education of the common people, but a republic must look to the virtue and intelligence of its community for support, or it will fall a prey to scheming men and heartless demagogues.

The farmers, from their numbers, hold the baiance of power in their hands in this country, and must continue to do so for years and years to come; educate them, and our republic will stand, the model and the glory of the world; let them remain ignorant and uneducated, and who shall dare to solve the enigma of the future? H. C. W. Putnam Valley. N Y., Oct. 1849

Agricultural Education.

At the last meeting of the Seneca County Agricultural Society, John Delafield, Esq., on tendering his resignation as President—a post which he had occupied for three years—made some excellent and appropriate remarks in regard to agricultural education. He has kindly favored us with the following extracts, which we recommend to the attention of our readers. Eds.

The age in which we live is so remarkable for important events, producing changes in modes of life, and forcing upon us an activity and enterprise unknown in former periods, that the best educated man among us, feels the power of science pressing and urging him to a further accumulation of knowledge. It must be evident to every thinking and observing man that a better and more general education is urgently necessary, to keep pace and position with the improvements of our age.

Heretofore the importance of education and general knowledge was felt to be the basis of our liberty, its safeguard and sure instructor as to what is right and just between man and man. This truth is as strong now, and necessary to our liberty and happiness, as at any period of our history; but the zeal engendered by our systems has produced such an amount of results or products from the improved education of our people; science has advanced with strides so rapid and long, that many of our citizens look with wonder and astonishment, acknowledging the superadded necessity for better instruction for the masses—that we may comprehend from day to day, and be actively benefitted by the use of every improvement which science brings to light.

That our state has done nobly, all will admit; our common schools, and now, our free schools, have opened and will continue to open, the elementary doors—exerting an influence for good on all time to come. A few years back, and we beheld a vessel pressing against wind and tide up our mighty rivers, by a power unseen; soon after we saw large crafts, freighted with the rich products of the farmer, floating up and down the rough mountains, and across extensive plains, where neither river or rivulet had run before.

Next, we find towns, villages, cities, far distant from each other, connected by iron bars, on which enormous burdens and masses are impetuously driven by the use of a few gallons of water. And more recently, we communicate our wishes to friends or agents at the distance of a thousand miles, or more, in less time than I take to recite the fact. These are some of the important changes of our day and hour; but there are others specially applicable to every branch of trade or art, equally amazing in action and result.

Without adverting to the wonderful advantages derived to the mechanic, manufacturer and merchant, let us inquire what progress has been made by science for the advantage of the farmer.

It may be first stated, that since the occupation of this continent by Europeans, and until within the last twenty years, the system of cultivation was a system of deterioration, a system of destruction. The earth yielded bountifully—man took all, but gave nothing in return. What was the consequence? A steady diminution of products until this noble state of New-York was reduced from an average production of 30 bushels of wheat per acre, to the unprofitable product of only 12 or 13 per acre. When the great impulse was given to Education in the new as well as in the old world, science was in-

voked on behalf of the farmer. The nature, character and elements of manures and fertilizing matters were examined and ascertained. The discovery that potash, soda, magnesia, lime, &c., were in fact the oxides of metals, led the way to improvement. The next important discovery was the elements of plants, showing beyond dispute their similarity with the soils on which they grow; and subsequently the due proportions in which they (these elements) exist in plants for their perfect development was clearly proved. About this time it was established that our plants drew subsistence also from the atmosphere, and science has pointed out to us those necessary elements. Further investigation has brought to light the necessity and action of vegetable decaying substances in our soils, and the agencies thus carried on for our benefit.

The action of the atmosphere upon the soil, when mechanically broken up and turned over, has been well explained. In short, science has been as profuse in her riches to the farmer, as to any class of men; but our class has been deprived of these riches intended for it, by an absence of those means for their distribution, so largely possessed by every other class of mankind: I mean, colleges, academies and schools devoted to their special advance-True, the elements and rudiments of a general education may be within the reach of every young person, but the application of knowledge, of art, of science, to agriculture is not to be had in any institution in this state; nor can it now be grafted on any existing institution, because original intent, long continued habit, and settled opinions, have confirmed them in leading the youth committed to their care, into pursuits entirely disconnected with what I believe to be the best, purest, and happiest vocation of life.

The other vocations of life have, indeed, their enjoyments, and are essential to the perfection of the agriculturist, as agents, to receive and distribute his products, to consume them, to bring to him, in return, the comforts and luxuries of other climes, to contrive and arrange the fleece and the cotton ball in varied forms and textures for his comfort or pleasure, to encourage the fancies and quick imaginings of some for the decoration and adornment of our dwellings or persons, or for the amusement strengthening of our intellects. Now, all these classes have their proper and special schools, academies and colleges, rightfully and properly established, and from them, as I before stated, has emanated the talent which claims our wonder and admiration from day to day, while we, the farmers, the producers, the very foundation and means on which all other classes are constructed and supported, are without a single school, academy or college, devoted to instruct us, or cause the proper applications of science to our important calling. For a few years past, we have feebly raised our voices, and as feebly pressed our claims on the legislature for an equal participation in the means we so largely contribute, by an appropriation for a college devoted to our agricultural promotion, and that the teachings of science might be exhibited to the eye and understanding upon an experimental farm attached to a college. Our voices have been as feebly heard; for nothing has been done for us beyond complimentary reports. Compliments, though agreeable, are cheaply procured, and endure in proportion only to their value. We need dure in proportion only to their value. the substantial and momentous element of an agricultural college for the farmer's son-a college, so endowed and conducted, that a certificate from its officers shall be a passport to the farmer in every

place and every clime, alike honored and respected with the diploma of any other college or institution.

And now, farmers, a few words as to the prompt use of the institution, which I feel must be accorded to your wishes. It is probable that many a parent will in humble modesty, shrink from thrusting his son into competition, or fear the results of a position so prominent among his fellow beings. Let us, for a moment, look back upon time, and the results of science as placed within the grasp of men like many or all of us. We find

1. Opie, the celebrated painter, and who lectured upon his art in London. He was a lumberman and carpenter.

2. John Prideaux-who became Bishop of Worcester, entered as assistant in the kitchen of the college (Exeter) in Oxford, and there obtained a fellowship.

3. Linnæus-The famed founder of the science of botany, closely allied to our profession, was a shoemaker's apprentice.

4. Ben. Johnson - the celebrated dramatist, worked as a brick layer.

5. Jas. Milner-the author of the history of the church, was a weaver.

6. Cook-the great navigator, was, in early life, the apprentice to a shopkeeper.

But let us come to our own day and times, and we find:

1. Benj. Franklin—his early days were devoted to soap boiling and candle making. I need not remind you of the conspicuous and important influence he had in securing to us our present liberty and

2. Humphrey Davy-to whom we farmers are indebted for science applied to our profession; he was the son of a carver in wood, and was himself an apothecary's apprentice.

3. General Greene of N. E. He was a blacksmith-member of state legislature-the friend of Washington-the true soldier.

4. Roger Sherman-one of the noble souls whose names were affixed to the Declaration of Independence. His father was a farmer, but himself a shoemaker—the man of whom Jefferson remarked, "he never said a foolish thing in his life."

I could go on and particularise hosts of talented men who have risen in this country from obscurity to the highest estimation of their fellow beings. At this hour we have, living in this state, men who struggled with poverty from their youth, holding the highest offices of our state and general government-bright lights of this nation-poor through life as to property, but rich and wealthy to excess in all that makes the man, that gives character,

and elevates the human species.

Behold, then, farmers, the beacons for us to fol-Every one of the men I have named were urged forward to schools, or seized eagerly every means for education-zeal and determination accomplished the rest, at a time when our best appliances for education were young and weak, and be-fore the great store-house of science was opened as it now is for the use of man. Then the competition was among comparatively few-now each man is but one of many millions running the same race. So large is our community that we are necessarily divided into classes, and each year every class takes its more distinctive In accordance with this natural division, we find every class, except the great farming body, establishing schools, academies and colleges, for their own advancement. We see their educated men filling or claiming to fill every post of honor or distinction.

Gentlemen, I call upon you to remember that, as a

class, you far outweigh in natural advantages, every other class; in numbers, we constitute more than threefourths of the whole nation, yet, strange to say, not a school, not an academy, not a single college has been devoted to the advancement of our high calling-a calling which in truth demands as high or a higher education for its perfection, than any other position in life. This is strong language for us, but it is true; it is capable of full demonstration; and the claims we are now making for our share of public attention and our rights, will be upheld by a burst of stronger tones than mine. Let us then press forward with one accord-let us as farmers feel as one family, and claim from our State government the prompt establishment of an agricultural college, with suitable farms, to shed the light of science upon agriculture, as it has done, by similar means, upon law, medicine, commerce and manufactures.

Doings of the Smithsonian Institution.

EDITORS OF THE CULTIVATOR-I have just finished an examination of the first and second Reports of the first secretary and other officers of the Smithsonian Institution. I hardly remember to have taken anything in hand, for a long time, more full of interest, or, in my opinion, calculated to develope more important results for science, than the plan of organization of this institution, and the designs of the Board of Regents, in

carrying out and perfecting the same.

It is well known that Mr. Smithson left his property in trust to the United States government, to found at Washington, an institution which should bear his own name, and have for its object "the increase and diffusion of knowledge among men." This trust was accepted by our government, and an act of Congress was passed, constituting certain individuals an establishment, under the name of the "Smithsonian Institution for the increase and diffusion of knowledge among The act establishing the institution, directs, as a part of the plan of organization, the forming of a library, a museum and a gallery of art, together with provisions for physical research, and popular lectures; leaving to the Regents of the institution the power of adopting such other plans as may to them seem best suited to promote the objects of the bequest.

The secretary, in his latest Report, informs us that the Regents have resolved to divide the annual income into two equal parts; one part to be devoted to the increase and diffusion of knowledge, by means of original and particular research, publications and lectures; and the other half to be applied, in accordance with the act of Congress, to the gradual formation of a library, a

museum and a gallery of art.

The secretary also informs us, that several distinct scientific researches are now in progress, under the direction of the institution, memoirs of which will be duly published; that the library is gradually increasing by donations and by books deposited by publishers, and that, hereafter, considerable additions will be made in the way of exchanging the Smithsonian Contributions for the published Transactions of other institutions; that preparations are making for giving a series of free public lectures, to be commenced as soon as the building is ready for the purpose.

We find by the report of the building committee, that the east wing of the building is ready for occupation, and that the whole structure will be completed within the specified time, namely, by March, 1852; that the plan of building adopted, comprises a museum 200 feet by 50, a library 90 feet by 50, a gallery of art 125 feet long, two lecture rooms, of which one is capable of containing an audience of 800 to 1000 persons-that the style of building selected is the later Norman or rather Lombard, as it prevailed in the twelfth century, cheifly in Germany, Normandy and in southern Europe, immediately preceding the introduction of the Gothic; and that all expenditures connected with the building, including the laying out of the grounds, planting, fencing, &c. &c., may be comprised

within the limit set, namely \$250,000.

We find by the report of the executive committee, that the whole amount of Mr. Smithson's property, received into the treasury of the United States, was \$515.169,00; that the interest which had accrued on the same, up to July, 1846, when the funds were placed under the direction of the Board of Regents, was \$242.129,00; that, owing to the excellent system of finance adopted by the Board of Regents, the interests accruing on this fund, will so far exceed the expenditures, of every kind, as to enable them to complete the building, and put the institution into full operation by March, 1852—that there will then be a residue of interest of \$142,000.00, to be added to the original bequest, (\$515,169.00) making the permanent fund for the institution, of 657,000.00—which will yield an annual income of \$39,420.00 for the increase and diffusion of knowledge.

It is but just to remark, Messrs. Editors, that the report of Mr. JEWETT, the assistant secretary, relative to the library, is a very interesting, perspicuous and able document, and is highly creditable to him. I would gladly notice his report more fully, and give some fine

extracts from it, did my limits permit.

The Regents very justly deduce the following propositions from the will of Mr. Smithson, as prominent rules to guide their practice in dispensing the funds of this institution:

1. The bequest is intended for the benefit of men in general, and its influence ought not to be restricted to a single district, or even nation.

2. The objects of the institution are: first to increase, and second, to diffuse knowledge among men.

3. The will makes no restriction in favor of any particular kind of knowledge.

"To restrict, therefore the operations of the institution to a single science or art, would do injustice to the character of the donor, as well as to the cause of general knowledge. If preference is to be given to any branches of research, it should be to the higher, and apparently more abstract. This is true even in a practical point of view. Agriculture would have for remained an empyrical art, had it not been for the light shed upon it by the atomic theory of chemistry; and incomparably more is to be expected as to its future advancement from the perfection of the microscope, than from improvements in the ordinary instruments of husbandry.

TO INCREASE KNOWLEDGE, it is proposed:-

1. To stimulate men of talents to make original researches, by offering suitable rewards for memoirs containing new truths.

2. To appropriate annually a portion of the income for particular researches, under the direction of com-

petent and suitable persons.

Among the great variety of subjects proposed for investigation, I noticed that the following are already engaging the attention of the Board of Regents:

The ancient monuments of the Mississippi valley; five separate memoirs on astronomical subjects, affording important additions to the science; a systematic and extensive series of meteorological observations, particularly with reference to the phenomena of American storms; a series of observations on the temperature and velocity of the Gulf Stream; the botany of Oregon, with drawings and engravings; and a collection of facts relative to the variations of the compass, to be presented in a series of maps.

To DIFFUSE KNOWLEDGE, it is proposed:

1. To publish a series of periodical reports on the progress of the different branches of knowledge.

2. To publish occasionally separate treatises on sub-

jects of general interest.

Among the subjects soon to be reported, I notice that arrangements are being made to publish the fol-

Reports on the present state of chemistry as applied to agriculture; on the forest trees of North America, giving their uses, mode of propagation, and their history; on the present state of our knowledge of light-ning, and the best means of guarding against accidents

from its effects, &c. &c.

I have become very much interested in the plans and designs of this institution, for establishing a system of extended meteorological observations for solving the proplem of American storms. There is scarcely any object of scientific research of more general interest, or likely to be productive of more beneficial effects than that which relates to the phenomena of our storms. Within a few years past, in our country, several important principles have been established, and some well defined theories have been recently proposed, by which attention may now be directed to many different points of observation that cannot fail of being attended with important results. The observations of Mr. Redfield, in particular, have been wonderfully exact, extensive and scientific; his theories are very attractive to the scientific inquirer, and numerous facts and observations by others, seem to come in to his support. The Smithsonian institution proposes to organize a system of observations which shall extend as far as possible over the North American continent. In order to do this, they have invited the co-operation of the British government; and have obtained their assurance that as soon as the plan is fully matured for this country, no difficulty shall be in the way of establishing a system of corresponding observations in the British provinces.

Prof. Loomis, of New York University, has submitted to the institution a very interesting report. It contains an exposition of the advantages to be derived from the study of meteorology, and what has been already done in this branch of science in this country, the encouragements for a further prosecution of the

subject, together with a plan of operations.

In order to present a general view of the subject, in a condensed form, I have gathered up from his somewhat extended report, a few of the more prominent points, using nearly his own language. They are as follows:

I. The advantages to society of the study of mete-

I. The advantages to society of the study of meteorology.

Very little argument is needed to prove that our comfort and convenience, not unfrequently our lives and
property, are dependent upon meteorological phenomena. This is proverbially true of the mariner. His
life often depends upon the fidelity with which he
watches every change in the aspect of the sky. The
number of disasters upon the sea is frightful, and is
far greater than is generally known. In the gale of
December 15, 1839, eighty-nine vessels were wrecked
on the Massachusetts coast; and of these, sixty-one on
a single cape. In the great hurricane of 1780, thirteen
battle-ships were lost, and sixteen more dismasted.
England and America alone suffer an annual loss from
wrecks of more than 1000 vessels, and nearly one-haif
of this is on the American coast. The farmer, too, is
directly dependent upon the weather for the consummation of his plans, almost equally with the sailor. Semation of his plans, almost equally with the sailor. Severe drouth or excessive rains, untimely frosts or a scorching sun, may blast all the hopes of the husbandman. If we can anticipate the general character of a season, the farmer may regulate his time of planting or the nature of his crops, so as to be least injuriously affected by unpropitious weather; so that, if we cannot strip the lightning of its power, we may at least direct it harmlessly to the earth. it harmlessly to the carth.

II. The progress already made, towards deducing from these

om these observations general laws.
In the list of philosophers who have contributed to create science out of the crude materials furnished by observation, Mr. Redfield is first mentioned. He gives an account, in a paper to the American Journal of Science, of the hurricane of September, 1821, of the storm of August, 1830, and of two or three other storms of the same year. From a comparison of all the obserof the same year. From a comparison of all the observations, Mr. Redfield derived the conclusion that those storms were great whirlwinds. In 1833 he published a list of general propositions as embodying the results of

his investigations, among which were the following:

1. The severe storms of the Atlantic coast often originate in the tropical latitudes, where they are distinguished by the name of hurricanes.

These storms cover, at the same moment of time, a surface, whose diameter varies from one to five hundred miles, and in some cases they have been much more extensive. They act with diminished violence towards the exterior, and with increased energy to-

wards the interior.

3. The duration of the storm at any place within its track depends upon its extent, and the rate of velocity

with which it moves.

The direction of the wind over the greater portion of the track is not the direction of the progress of the

5. In the lower latitudes, while drifting to the west-ward, the direction of the wind at the commencement of these storms is from the northern quarter, and during the latter part of the gale, it blows from the southern quarter of the horizon.

6. North of the parallel of 30°, and while pursuing

their course to the northward, these storms commence with the wind from an eastern or southern quarter, and

terminate with the wind from a western quarter.
7. Mr. Redfield infers that the portion of the atmosphere which composes the body of the storm, blows in a horizontal circuit around a vertical axis of rotation, which is carried onward with the storm, and that the direction of the circuit is from right to left.

The barometer always sinks while under the first portion of the storm, and rises again under the last por-

tion of the gale.

In the Journal of the Franklin Institute for 1836, Prof. Espy published a series of essays upon storms, in which

he arrives at the following generalizations:

1. The rain and snow storms, and even the moderate rains and snows, travel from the west towards the east, in the United States, during the months of January, February, and March, which are the only months yet investigated. investigated.

2. The velocity of this line is such, that it travels from the Mississippi to the Connecticut river in about twenty-four hours; and from the Connecticut to St. Newfoundland, in nearly the same time, about

six mites an hour.

3. When the barometer falls suddenly in the western part of New England, it rises at the same time in the valley of the Mississippi, and also at St. John, Newfoundland.

4. In great storms, the wind for several hundred miles on both sides of the line of minimum pressure, blows towards that line directly or obliquely.

5. Many storms are of great and unknown length from north to south, reaching beyond the northern lakes on the one hand, and beyond our observers in the Gulf of Mexico on the other, while their east and west diameter is comparatively small. The storms, therefore, move side-foremost.

6. Most storms commence in the "far west," beyond

the stations of our most western observers.7. In the northern parts of the United States, the wind,

in great storms, generally sets in from the north of east, and terminates from the north of west.

8. In the southern parts of the United States, the wind generally sets in from the south of east, and terminates from the south of west.

III. The encouragement there is to a further prosecu-

tion of meteorological researches.

In all our investigations respecting natural phenomena, we assume that the operations of nature are subject to laws, and these laws are uniform in their operation. A law of nature knows no exceptions. There is no place for science except upon this basis. All the laws of nature applications while they remain unknown has ture appear complex while they remain unknown; but when once discovered, we are surprised at their simpli-

Why should storms form an exception to this city. Why should storms form an exception to this rule? Have our meteorological researches been rewarded with no success? Far otherwise. We have discovered that the great storms of the United States travel nearly from west to east. Violent storms usually travel at the rate of about 25 miles per hour; in some cases the velocity has been known to rise to 40 miles. These storms are of various dimensions. White summer showers may cover an area of but a few miles, winter storms sometimes have a diameter of 1000 miles. winter storms sometimes have a diameter of 1000 miles or more. If the diameter of a storm is 500 miles, and or more. If the diameter of a storm is 500 miles, and its progress 25 miles per hour, its duration at a place situated at the centre of the track will be 20 hours, and loss for places out of the centre. Hence we may form situated at the centre of the track will be 20 hours, and less for places out of the centre. Hence we may form some estimate of the extent of a storm from its duration at any place. We are justified, then, in inferring that storms are subject to laws; that these laws are uniform in their operation, and that they may be discovered. When the magnetic telegraph is extended from New York to New Orleans and St. Louis, it may be subservitated the preceding of our commerce even in the preceding of our commerce even in the pre-York to New Orleans and St. Louis, it may be subservient to the protection of our commerce, even in the present state of our knowledge of storms. The severe winter storms which desolate the Atlantic coast come from the valley of the Mississippi, and require about 24 hours to travel from St. Louis to New-York. The approach of a dangerous storm might therefore be telegraphed at New-York hours before its arrival, while the selve was yet unclouded and the wind proprietors in the sky was yet unclouded and the wind propitious, in season to save a fleet of ships from putting to sea, to be engulphed in the bottomless deep.

IV. Plan of conducting observations to secure the

object proposed.

An effort will be made to secure the co-operation of the general government, the several state governments, scientific societies, and the friends of science throughout scientific societies, and the friends of science inroughout the country. The entire country will be divided into sections not exceeding 100 miles square; and in each section, not already provided for, an observer will be sought out, who shall volunteer to make the observa-tions if instruments are furnished him. The Smithson tions if instruments are furnished him. The Smithsonian Institute will assume the burden of furnishing the necessary instruments to those who are unable to do it themselves. A form of observations will be provided, and instructions given to all the observers, who shall report at least quarterly to the secretary at Washington. It will be the duty of the Meteorologist to take charge of the observations, to discuss and analize them, and endeavor to deduce from them the laws of storms. These investigations will be published, in as much detail as may be thought demanded by the claims of science, and a copy of whatever may be published will be forwarded to each observer, in order that he may be encouraged in his work, by finding that his labor is not wholly in vain.

After all my efforts at condensation, Messrs. Editors, I find that my attempt to present a view of the doings of the Smithsonian institution, has resulted in a long article. I feel quite diffident in occupying so much space in your columns with this thing, but conclude to venture hoping it may be found interesting to a portion,

at least, of your readers.

This institution proposes, among other things, to investigate several subjects intimately connected with the business of agriculture; and it is, therefore, well that our agriculturists should be informed of the principles of its organization and plans of operation. The proof its organization and plans of operation. posal to "post up" the developments of chemistry, as applied to agriculture, may be instanced as a very important one, and calculated to be of service to our farmers. Here lies a great field for further scientific research also; and if conducted with proper skill and judgment, great benefits must arise to our agriculture. We farmers will "keep an eye out" upon the operations of this Institution, therefore, and will be ready to lend it a hand in investigations connected with our profession, as well as to receive and acknowledge any benefits resulting from its scientific researches. F. HoL-Brattleboro', Vt., Dec. 5, 1849. BROOK.

HE who plows his land and breeds cattle, spins gold.

THE footsteps of the owner are the best manure for his land.

Notes on Massachusetts Farming.

We had lately the pleasure of calling on a few farmers in Massachusetts; and from the many interesting matters, to which, in a hurried view, our attention was called, we offer the following brief notes:

The farm of General Wm. Sutton, of Salem, consists of 300 acres. About 200 acres are woodland and rocky pasture, which has never been plowed. The remainder, though naturally rough, has been made very rich and productive. It has been fenced with stone walls, which will probably stand as long as fences are needed. Most of the boulders, with which the soil was formerly considerably filled, have been taken out, and the plow now passes without obstruction, over large and handsome fields.

The principal surplus product of the farm is hay; but grain and vegetables, to the extent of the home consumption, are produced. The annual production of hay is 100 tons; of this, 60 tons are sold, at an average price of \$13 per ton. The remaining 40 tons are required for the support of the stock kept on the farm, of which there are six oxen, six cows and four horses—besides twelve to fifteen cows taken in to pasture at \$10 each, for the season.

The team-work of the farm is done chiefly by oxen, and the three pairs kept here are noble animals, able to accomplish anything practicable in their line. They are from five to seven years old, and the weights of the different pairs, are 3,300 lbs., 3,600 lbs., and 3,800 lbs., in good working order.

Gen. S. takes particular pains to save all the manure of his animals. It is mostly deposited in a celiar, over the bottom of which, as well as over the whole barn-yard, muck is spread to absorb the liquids. He has some advantages of making manure not usually possessed by farmers. He uses the waste of a large glue factory. The animal substance in the process of being converted into glue, while in a half-fluid state, is strained through straw; the refuse that remains, is, with the straw made into compost with peat, at the rate of three loads of the latter to one of the former. The mass remains one year before being used, during which time it becomes thoroughly decomposed; the straw is rotted, the peat, by fermentation, becomes fine, and is thoroughly impregnated with the gases and salts of the animal matter. This compost is found to be more powerful and lasting in its effects, than common barn manure, load for load.

All Gen. S.'s buildings are of the most substantial kind. His barns, and the yards attached to them, have every possible convenience of arrangement, with water always at hand. His implements are the most perfect in their kind, and so complete is the assortment, that every description of work may be performed with its most appropriate tool. Every thing is kept in a place designed for it, and could be readily found by a person acquainted with the plan, in the darkest night. Taking the whole establishment together, it presents a model of neatness, system, convenience, and thorough management, which is seldom equalled.

The farm of E. Hersey Derby, Esq., is in South Salem. Those who have been familiar with the various agricultural enterprises of Massachusetts for the last forty years, will at once recognize Mr. D.'s name in their connexion—especially as a prominent officer of the Massachusetts Society for Promoting Agriculture, an association to which the country at large is deeply indebted for much of its advancement in husbandry. We found him still active, personally superintending his extensive farming operations, and earnestly awake to every practical improvement.

Mr. D. has a large garden, which is enclosed with a buckthorn hedge. He has used the buckthorn exten-

sively for hedges, and his fences of this kind are among the most perfect we have seen. He is confident, after having made trials with several other thorns, that this is the only one suited to this climate. He states that all the buckthorns in this country, so far as he is acquainted, came from one imported tree, which stood in the garden of the late Dr. Holvoke, of Salem. We are aware that some regard the buckthorn as indigenous to this country; but Emerson, in his "Trees and Shrubs of Massachusetts," says "it was probably introduced from Europe, where it is a native."

Mr. D. has introduced the English oak, and has a nursery of young trees of this kind, and several beautiful standard trees, from forty to sixty feet high, planted with his own hand. Indeed his grounds abound with fine trees of various kinds, all of which, with the exception of one, he informed us, were put out by himself.

Mr. D. keeps thirty cows, converting the surplus produce of his farm chiefly into milk, which is sold at six cents per quart, (beer measure) in winter, and five cents in summer. The average amount realized from each cow, is \$100 a year. He raises vegetables—chiefly carrots and beets—on a large scale, for feeding the cows in winter, allowing each cow half a bushel per day, while kept on dry fodder. He prefers the carrot. The hay for all the stock of the farm, is cut in a machine. The cows are fed partly on upland, or fresh hay, and straw, and partly on salt-marsh hay, and they do much better with this variety, than when confined to upland hay.

Mr. D.'s barns are spacious, and well planned. The one where the stock is principally kept, has a cellar under the whole of it; a part of which is appropriated to manure, a part to storing vegetables, and a more dry and open part to the storage of farm implements.

The farm of Geo. E. Adams, Medford, consists of 160 acres. It is devoted chiefly to the production of milk and apples. The stock consists of 55 cows, a yoke of oxen and five horses. The annual sales of milk have amounted to \$5,500, and in one year to \$6,000 (the prices as mentioned above.) The apple orchard consists of fifteen acres. The trees have been well managed—are large, and generally bear abundantly. The varieties are chiefly Russets and Baldwins. He has picked 1000 barrels of winter apples in a season, and one season sold that number at \$2 per bbl. The Baldwins are usually sold to Messrs. Tudor, of Boston, and are wrapped in papers and sent to Calcutta. A large orchard of peach and pear trees has lately been set out, which has not yet come into bearing.

Mr. A. is a young man who farms for profit, and the energy and economy with which his extensive business is carried on, bring a sure and satisfactory reward. Much judgment has been shown in his buildings, several of which have been erected under his own direction, and are of ample dimensions, convenient, and well finished. As with all good farmers in this section, manure is of the first importance. He saves everything of this nature, and has enough to keep up his farm to an extraordinary state of richness. His main barn is 160 feet long and 40 feet wide, with a cellar under the Marsh mud and "sea-wrack," (vegetable matter washed up by the tide,) are used as absorbents. Without these the manure, as the urine is saved, would be in too fluid a state to be readily portable. Water is brought to the buildings by means of a small windmill, which works a pump, and keeps a large reservoir constantly filled.

On the farm of Mr. Harvey Dodge. Sutton, we witnessed some valuable improvements. The farm lies on a large swell of land, which is naturally very rocky, and quite wet. It was originally divided into very small lots, many of them containing only two acres each, and fenced with stone walls. One object of these small di-

visions was probably to get rid of the stones, which had to be removed from the soil before it could be worked. Some idea of the quantity of stones may be formed from the fact that these walls were made from four to six feet wide and four feet high. The foundations of many of them not being properly laid, and the materials not of the best kind for permanent walls, they had in several instances settled down and flattened out, till they occupied much more room than at first.

When Mr. D. took possession of the farm, a few years ago, he soon discovered that it had two radical defects, which he determined to remedy. The first was the loss of land by the numerous old walls, and the inconvenience of working the small lots; and the second, the want of drainage to the soil. In obviating the first difficulty, he adopted a plan by which he, in a great degree, obviated the second. He sunk the old walls, and the trenches where they are buried have become drains! He has in this way turned a large part of his farm into beautiful fields, of from 12 to 18 acres each. Where the walls on the lines of the present division were good, they were left; where they were not good, they were rebuilt in the most substantial manner. The walls were sunk so low that the plow passes over without disturbing them. The mode of sinking the walls was by digging deep ditches close along side of them, and then throwing the stones in. The ditches were filled to a level with the surrounding ground, with the earth taken out, and the remainder is used in filling hollows about the fields. The effect of the drainage is already apparent in the sweeter nature and more abundant growth of grass; in the better and surer crops of grain which the land produces, and in the more healthy and thrifty growth and increased productive-ness of fruit trees. In some instances the sunken walls ness of fruit trees. do not sufficiently drain the soil, and in such cases other drains are being made.

Mr. D. is also reclaiming by under drainage, digging out stones, and leveling, a wet pasture, lying near his barn, which had never been plowed till last fall. operations before spoken of prove that it will pay.

The water from the drains is collected into several main channels. One of these is carried to the buildings, and furnishes water for the stock, &c., and another is emptied on a sloping meadow, and festilizes several acres by irrigation.

Attached to Mr. D.'s piggery, is a building where tripe and neats-foot oil are prepared for market. shanks, feet, and heads of cattle are brought here in large quantities. The bits of skin are saved for glue, and the bones are boiled till the oil is thoroughly extracted. The liquor in which the articles have been boiled, is used for cooking vegetables for swine, of which Mr. D. keeps about sixty head. The "stores" are fed with carrots and turneps boiled in the liquor; for fattening, corn or corn-meal is added.

The manure made from the hogs and the animal offal, is of much importance. The bones would be still more valuable, if some economical mode of erushing them could be devised. The want of such a mode, has prevented many of the larger bones being used to much advantage. The hoofs and the small bones of the foot, have been plowed into the ground, and their effect has been very beneficial. Apple trees have been made to grow rapidly from this application, and a piece of carrots, sown among the trees, the past season, produced 900 bushels to the acre. The larger bones, shanks and jaws, have in some instances been driven into grassgrounds. Mr. D. showed us a meadow, a portion of which had been "boned" in this way, that had produced as much hay the past season, as could be made on the ground.

of cattle, and has some pretty Devons-a bull and heifer-of the stock imported by the Mass. Society.

Mr. NATHANIEL DODGE, of Sutton, has a fine farm, especially attractive from the good order of his buildings, the perfection and uprightness of his fences and the smoothness and neatness of his fields. He has been for several years noted for having fine working oxen. In our volume for last year, page 58, we noticed a pair of his cattle which had been fattened. He informs us that these were sold in Boston for \$400. He has now a pair of brindled oxen "as like as two peas," quick, strong and handsome-which he is willing to put to the plow against any pair of horses.

We called for a short time at the farm of Col. J. W. LINCOLN, Worcester. Col. L. was absent, but his foreman showed us the out-buildings, the stock, and a portion of the farm. The buildings are commodious and very complete, presenting a fine appearance. A large piggery has lately been built; all the under portion, or that with which the hogs come in direct contact, is made of stone, and of so permanent a character, that for aught we can see, it may last for ever. The premises exhibit unmistakeable evidences of good management. The fields are well laid out, and fenced with stone walls of the most substantial kind.

Col. L. has paid considerable attention to cattle. He has several yoke of fine oxen and steers, and some of the best cows and heifers we have seen. He has tried the Ayrshires for several years, and is well pleased with them as dairy cows. He has several full bloods which are good specimens of the breed. His bull and some heifers were lately purchased of the State Society.

Col. L. cultivates about an acre of carrots, yearly, for feeding his cows in winter, and the average yield is 600 bushels. The cows are warmly stabled, and when fed with good hay, (Col. L's. appears to be of the best kind,) and half a bushel of carrots to each cow

per day, they will make nearly as much butter, when fresh in milk, as on grass feed.

The farms of Ex-Governor Lincoln, and his sons, Messrs. W. S. and D. W. Lincoln, are near the city of Worcester. The original farm of Gov. L. consisted of about 300 acres; but it has been encroached on by the growth of the city, and a considerable portion has been sold for house lots. The land is very productive, particularly for grass. Gov. L. showed us a lot of seven acres, which kept six cows constantly, the past season, and yet the grass was not entirely kept down, notwithstanding the extreme drouth. It has never been plowed but once, but has once been top-dressed with a peat compost and harrrowed.

Gov. L.'s sons are ardently devoted to agriculture and horticulture. Mr. W. S. L. has a snug place, with new buildings, and has already made a demonstration in farming which augurs well for his ultimate success. Mr. D. W. L. is more especially engaged in horticulture. He has a nursery of fruit trees. He finds, however, that the cultivation of choice fruits of some kinds, is more profitable than raising trees for sale. He is, therefore, giving much of his attention to the culture of pears,—mostly on quince stocks,—and grapes. He has a fine cold vinery, filled mostly with the Black Hamburgh variety, and has also vines in his green houses. The vines appeared in excellent condition, and we were informed had borne well.

Mr. L. obtains his manure chiefly from a slaughter house, on his land. The manure is made into compost with muck and litter, and used after it has decomposed. To prevent annoyance and loss from the escape of odors from the manure, he uses charcoaldust, which is occasionally spread over the manure, under the slaughter house, and the hogs which are Mr. D. is turning his attention to the improvement kept there, work the dust into the manure. He uses

the waste charcoal from the rail-road locomotives. The application of a slight coating of this material, effectually stops any unpleasant smell from the manure.

Common Schools.

The Common School is justly regarded as the palladium of our civil liberties. It is, and must be, from this source that the mass of our citizens derive the groundwork of the knowledge which will enable them to sustain the principles of a free representative government. It is, then, of the highest consequence, that these schools be made to confer the greatest possible advantages on those for whom they are designed. In regard to their character and utility, much depends on the countenance and encouragement given them by parents. The improvement of children will be comparatively unimportant, if parents are indifferently disposed towards teachers and schools. This subject is brought forward in a striking light in the following circular, addressed to parents, written by an observing and intelligent superintendent of schools, in a neighboring state. Eds.

I know you feel an interest in the education of your children, and therefore I wish to call your attention to the winter schools, which are about to commence. What shall be the value of the school in your district to your children? Are you aware that the success of your school will depend much upon your co-operation with the teacher? I find throughout the county, that where the parents take the most interest in schools, there they have the best schools, and where they take the least interest, the poorest schools. It is the uniform testimony of teachers, that the active co-operation of parents is essential to success in their schools. Shall your teacher have this co-operation the coming winter? You may receive the public money, pay your taxes, employ a good teacher; but unless you take an interest, yourselves, you cannot have a good school. The school will be what you make it. Do you ask what you can do to secure a good school?—There are many things you can do. I will mention some of them .

1. You can furnish your chidren with suitable books. 2. You can see that your children attend school, punctually in the morning, and regularly every day. The tardiness and irregularity of scholars is one of the greatest evils in our district schools. Parents can correct this evil, if they will. In Putney, the average attendance last year was much greater than the year before—the average attendance in one school of 50 scholars being 60 days out of 66 day's school. In most schools in the county, the average attendance is not over 40 or 45 days-more than one-fourth of the schooling being absolutely lost, needlessly lost, while the value of the remaining three-fourths is greatly diminished. If your children are tardy, or occasionally absent from school, they will not be interested in the schools, or make progress in their studies. A few days' absence frequently destroys the value of more than half a winter's school. If your breakfast is half an hour too late, it may be the means of preventing your children from being interested in their studies for that day, and so through the winter. Will you not, then, as parents, see to it that your children attend the

3. You can visit the school. The practice of visiting schools is becoming more common in some towns, and the good effects of such visits are seen in both teachers and pupils. Still, there are many districts where neither the parents or the committees ever go into the schools, and the best teachers accomplish but little in such districts, on account of the indifference of parents. It is impossible for a teacher to keep a first-rate school,

where parents do not feel interest enough to look in and see whether their children learn or not. You may as well expect to raise corn in winter, as to find a good school in such a district. The neglect and indifference of parents will be as fatal to the interests of the school, as the snow and ice to the growth of corn. If you have a field of grain, are you not accustomed to visit it, now and then, to see how it grows, and that, too, when your visits do the grain no such good as they should do your children? for the grass and the grain have no eyes to see you, no smiling faces and cheerful hearts with which to greet you, as the children in the school-room have. If the sun shines and the showers fall, the grass and the grain will grow on. But what the sunshine and showers do for the fields, the interest of parents will do for the school. A visit from you who are parents, will often be as serviceable to the school, as a shower of rain on the grass, or the warm sun, with a dressing of plaster, on the corn. Will not every parent in the country visit the district school at least once during the coming winter? If the teacher is a good one, he will be glad to see you. If he is unfaithful, negligent, or incompetent, there is still more need of your visiting the school, even though the teacher should not wish to see you.

4. You can sustain the teacher in the government of the school. There is great complaint in our country, that the schools fail for want of order. This want of order is sometimes the fault of teachers, and sometimes of the parents. If parents do not govern their children at home, if they allow them to stay at home for every petty dislike they may have against the teacher, or if they are accustomed to take their children out of school, when a favorite son or daughter is punished, no teacher can govern the school. One of our town superintendents stated in a public address, last winter, that most of the failure of their schools in government, had arisen on account of the unwarrantable interference of the parents in the government of the school. If parents listen to the foolish complaints of their children, the children will generally have complaints enough to make. If your teacher has faults, it is better for you to go and speak of them kindly to him, than to find fault with him or backbite and slander him behind his back. For much of the trouble with teachers arises from some misrepresentation or misunderstanding, which a little explanation from the teacher would have removed. there is a decided public opinion in favor of order, there will seldom be much disorder or rebellion in school. It is because the unruly and disobedient expect " aid and comfort" among some in the district, that they venture upon open disobedience and rebellion in school. If your teacher is incompetent, or unfaithful, let him be fairly dismissed; but do not let a faithful teacher be put down or driven away by the ill will of an offended parent, or the clamor of unruly boys and girls, to the disgrace of the teacher, and the still greater disgrace of the children and the parents. Your duty as parents, the children and the parents. Your duty as parents, and as good citizens is not discharged by simply not encouraging disorder; it is your duty to sustain order, and frown on rebellion by your words and your influence. Men may encourage mobs in school, as well as in government, by looking on and keeping still, when they ought to speak out, and frown down rebellion. It is because the orderly keep still, that the few disorderly in our school districts make so much trouble.

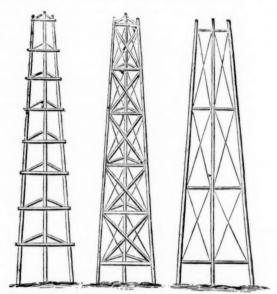
5. You can do much, also, to benefit your children, by endeavouring to interest them in obtaining an education; by encouraging them to study and improve their minds during evenings; by discouraging those amusements which take off their attention from the school, and dissipate their minds; by showing that knowledge and virtue are better riches for them than any treasure of silver and gold. James Tuffs, Supt. of Comman

The horticultural Department.

CONDUCTED BY J. J. THOMAS.

Horticultural Implements and Fixtures.

The economical horticulturist, who has ingenuity enough to do with his own hands, what is usually assigned to the carpenter, may be advantageously employed during winter, in adding to his implements and structures. A few suggestions under this head we hope may be acceptable at this season.



Supports for Climbing Plants, are often constructed as shown by Fig. 1, being made of durable wood and painted green or white. An improvement on this form is made by attaching the smaller or connecting strips in such a manner as firmly to brace the whole together, and at the same time to add to the appearance, which is of some consequence until the frame is wholly covered with verdure-figs. 2 and 3. Fig. 3 represents only one of the three sides of the frame.

We gave in a former number of this paper, (p. 277, 1849,) a figure and description of a very simple and substantial support for climbing roses, made by boring holes at short intervals through a single, neat upright post. Through these holes,

the long flexible stems are made to pass as they ascend in growth, at the same time running them in a twining direction around it. But a difficulty exists with tender roses and other tender climbers, as the grandiflora, &c. This is obviated by means of the annexed contrivance, which allows the prostration of the support with all its load, every autumn, for covering it as it lies upon the ground. A short substantial post of red cedar or other durable wood is inserted into the ground, projecting a foot or more above it, fig. 4, in which a space (a) is cut for the reception of the support. latter is kept firmly in its place in an upright position, by means of the two pins, b. b. fig. 5. On the approach of



Fig. 7.

Fig. 6.

winter, the upper pin is withdrawn, which allows the support to be laid

flat upon the ground for covering, as in fig. 6.

Fruit Ladders .- Convenient fruit-ladders greatly facilitate the gathering of fruit, prevent its becoming bruised, and save it from mutilation by chafing. A very simple, cheap, and convenient self-sustaining ladder, is represented in fig. 7, the legs and cross rods of which may

be about the size of, or slightly larger than those of a common chair. The small plank platform at

the top may be 6 by 9 inches. whole may be about 3 feet high, and will be nearly as light as an ordinary chair, and it will be found extremely useful among the smaller trees, or for the lower parts of full-grown ones.

The form represented in figure 8, having two folding legs, like those of a tripod, turning on joints, may be from 6 to 10 feet high.

An improvement of the latter has been made by

continuing the two sides of the ladder to a point, a, fig. 9, which the more readily enables the operator to thrust it up among the branches, and often enables him to support himself by holding to it. The legs turn at the hinges, b., and may be folded up to the ladder when not in use, as in the preceding instance.

The Orchardists' Crook, fig. 10, consists of a light rod, with an iron hook at one end, and a piece of wood made to slide along it. It enables the operator to draw down flexible branches of fruit trees within his reach, and retain them there while the fruit is picked from

them. In using it, the operator draws down the end of the

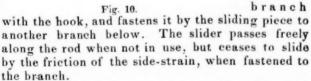
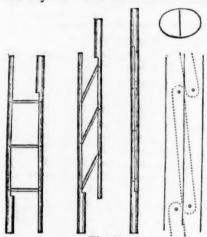


Fig. 9.

The folding ladder may be closed together with the facility of a pair of compasses; it then becomes a round stick, easily earried in one hand. made of strong light wood, and its construction may be readily understood by fig. 11, representing the ladder as open, as half-closed, and as closely shut. An enlarged longitudinal section shows the manner in which the rounds lie in the grooves or concave beds in the sides or styles; above which



is a cross-section exhibiting the semi-oval form of the styles. The ends of the rounds turn on iron



pins, slightly riveted outside. The rounds resting on shoulders, when the ladder is opened, render the whole stiff and firm. A ladder of this construction is found very useful, not only in fruithouses, where a common ladder could not be conveniently carried but in

Fig. 11. carried but in pruning standard trees, because it can be thrust through the branches like a round pole, without the least difficulty, and when once there, it is easily opened.*

Autumnal Flowers.

From an unpublished Address before the Aurora Hort. Society. By David Thomas, President.

-The blossom is the tenderest part of the plant; and such as can long withstand severe frosts, are very rare. The Snow-drop indeed, often stands in the frozen soil-supposed to have thawed a passage through it by pressing up its head-and the flower remains unsubdued by all the lingering storms of winter. The Eranthis may also be given as another instance of great hardiness; but the most remarkable of these exceptions to a general rule is found in Helleborus niger from Austria, which blooms on the edge of winter; and I have seen the same flower come forth in the spring from under the It is white on snow, after a repose of four months. the inside, touched with red externally, and some-times nearly three inches in diameter. In England it is called the Christmas Rose, but it has no affinity to any other rose; and though very pretty, is considered poisonous. This trait, however, is scarcely objectionable; it is selected for its beauty, like most other flowers, and not for its esculent qualities. Such plants indeed, may indirectly assist in the eduoation of children, and even some of a larger growth, by having them taught to keep their fingers to themselves in strange places—a lesson highly useful in after life.

From the milder climates of the Eastern continent, we have several plants that always bloom in autumn—some earlier, some later—such as Cyclamen hederæfolium, several species of Colchicum, Yellow Amaryllis, and two species of Crocus—one yielding the genuine saffron of commerce. These are all bulbous or tuberous rooted, and never flower at any other season. There are late-blooming plants however, that require all the genial months to prepare their stems and flower buds,—as some of the Asters and Gentians; and this reason seems sufficient to account for their lateness; but what should cause the others to anticipate the spring, is a mystery not easily explained. That climate has had something to do with it, is highly probable,—for I know of no instance of the kind among American plants with bulbous or tuberous roots. The Witch

Hazel indeed, flowers late in autumn; but it stands apart and remote from the former class, and constitutes a remarkable exception to the general laws of vegetable life. At the very time that the sap ceases to nourish the leaves, and while they turn yellow and drop from the branches, which indicate in other trees a dormant state—those identical branches burst into bloom, and impart a cast of cheerfulness to the solitary woods.

There are other plants from Europe, besides the former, that in mild, wet autumns begin to flower, although they commonly wait till the following year, such as the Auricula, the Primrose, and the dwarf yellow Iris; but with withered leaves lying round them, and chilling winds blowing over them, they have less power to cheer and exhilarate, than when they shine out in spring.

From a lower latitude than ours, where the autumnal sun dispenses a warmer ray, and continues longer above the horizon, the Chinese Chrysanthemum was brought to extend our season of flowers. I believe these numerous varieties have generally been treated as house plants; but they are said to do better in the open ground where they receive the reflected heat from a building, and are protected from those frosts that precede the approach of winter. Near Philadelphia, where the growing season is longer, such protection is less needed; and there I have seen them in great glory; but even here the warmth of a small stove enclosed by a thick curtain, might carry them safely through this period of trial, -for we all know that after some severe weather in autumn, we have often many fine days, and sometimes even weeks, in which such a mass of bloom, so varying in its tints-would gladden the heart of a florist.

Connected with this subject-I mean the guarding of plants in frosty nights,—science was for a long time in the rear of practical knowledge. Within the present century, however, the radiation of heat has become better understood; and it is now known that every clod and stone and plant,-exchanges heat with every other thing that a direct ray can reach, until, if not interrupted, the temperature between them becomes equalized. A plant however, radiating to the open sky from which there is searcely any return, will cool off in half the time that another will at the foot of a high wall, because half the sky is shut out from the latter. Now if over this plant a tile project horizontally from the wall, a still greater portion of the sky is excluded; and in frosty nights, this shelter would often be sufficient to protect tender flowers; but it would be an improvement to have a shelf with hinges-dropping down to admit the sun and rain, or spreading out to preserve the radiated heat.

The value of such projections was known in the early part of the last century, perhaps earlier. LAWRENCE, in his volume on Gardening, printed more than 120 years ago, said "they were found to answer to a wonder," and to secure the trained fruit wherever they were placed. In attempting to explain this result, however, he has given us a rare specimen of philosophy. He says:

"Most of our frosts and blasts, both in spring and autumn, fall perpendicularly; and therefore, the more any thing lies open and exposed to this perpendicular descent of vapors, the more will it be subject to be frozen and blasted. When a fruit tree has been trained against a slope wall, [not upright] we always find that that is the first and most blasted. This therefore being the true state of the case, horizontal shelters are the best guard and defense against perpendicular blasts."

^{*} This description is copied from the Am. Fruit Culturist.

American Pomological Congress.

ITS LISTS OF SELECT FRUITS.

Our readers will doubtless remember that the American Congress of Fruit Growers, more than a year ago, adopted a list of select fruits, "worthy of general cultivation," prepared by a committee of nine. The list, though small, comprised all that the committee could then agree upon, three negative votes out of the nine, being regarded sufficient to exclude any sort. At the late meeting of the same body the past autumn, a considerable number were added; and we give below the combined results of these two years' deliberations, which, though not wholly perfect, may be regarded as a selection by the highest American authority.

APPLES-24 sorts.

1849. 1848. Early Harvest, Large Yellow Bough, American Summer Pearmain, Swaar, Porter Fameuse, Vandevere. American Summer Fea Summer Rose, Early Strawberry, Gravenstein, Fall Pippin, Rhode Island Greening, Hubbardston Nonsuch, Danvers Sweet, Bullock's Pippin, White Seeknofurther. Rhode Island Greening,
Baldwin,
Roxbury Russet.
For particular localities,
Yellow Bellflower,
Esopus Spitzenburgh,
Newtown Pippin. Winesap, Lady Apple, Wine Apple, Red Astrachan.

PEARS-35 sorts.

1848. 1849 1843. Madeleine, Dearborn's Seedling, Bloodgood, Tyson. Golden Beurre of Bilboa, Rostiezer. Andrews, Fondante d'Automne, Fondante d'Automne,
Fulton.
Urbaniste,
Vicar of Winkfield,
Uvedale's St. Germain or Pound,
Louise Bonne of Jersey,
Uvedale's St. Germain, for baking Bartlett, Seckel, Flemish Beauty, Flemish Beauty,
Beurre Bosc,
Winter Nelis,
Beurre d'Aremberg.
For particular localities,
White Doyenne,
Gray Doyenne.

The following list of new sorts, adopted as giving promise of being worthy to be added:

Beurre d'Anjou,
Doyenne Boussock,
Manning's Elizabeth,
Doyenne d'Ete,
Striped Madeleine,
Duchesse d'Orleans,
Pratt Paradise d'Automne, Van Assene, Jalouise de Fontenay Vendee Chancellor, Ananas d'Ete, Brandywine, Ott. Pratt,

PEACHES-10 sorts-1848. Cooledge's Favorite,
Bergen's Yellow,
Crawford's Late.
For particular localities,
Heath Cling. Grosse Mignonne, George IV, Serrate Early York, Large Early York, Morris White, Oldmixon Freestone,

Plums-12 sorts. 1849.

New sorts, giving promise of being worthy to be added.

Rivers' Favorite,
St. Martin's Quetsche,
McLaughlin. Jefferson, Green Gage, Washington, Purple Favorite, Bleecker Gage, Coe's Golden Drop,

Frost Gage, Purple Gage, For particular localities,

For particular Imperial Gage.

CHERRIES—8 sorts—1848.

Mayduke, Knight's Early Black,
Downer's Late, Black Tartarian, Black Eagle, Bigarreau or Graffion, Elton, Dowton. APRICOTS-3 sorts-

Large Early, Breda, Moorpark.

NECTARINES-3 sorts-1849. Early Violet. Downton,

Gooseberries—10 sorts—1849. Houghton's Seedling, Woodward's Whitesmith Crown Bob, Laurel, Ironmonger, Early Sulphur, Red Champagne, Warrington, Green Gage, Green Walnut.

GRAPES-10 sorts-1849.

For culture under glass-

White Frontignan, White Muscat of Alexandria, Chasselas of Fontainbleau. Black Prince,
Black Frontignan,
Grizzly Frontignan,
For open culture— Black Hamburgh,

Isabella. Giving promise of excellence, Diana. CURRANTS-5 sorts-1849.

May's Victoria, White Grape. Red Dutch, White Dutch, White Grape.

Black Naples,

RASPBERRIES—4 sorts—1849.

Red Antwerp, Yellow Antwerp, Knevett's Giant, Fastolff.

STRAWBERRIES-5 sorts-1849. Giving promise of excellence, Burr's New Pine, Jenny's Seedling. Large Early Scarlet, Boston Pine, Hovey's Seedling,

The following list of REJECTED FRUITS, occupied the attention of the Congress for one entire day, and sentence was passed upon each sort separately. A single vote in favor of any sort, was sufficient to rescue it from this list, which is therefore the result of unanimous condemnation. It will doubtless be of essential use in preventing cultivators from procuring or retaining any of these worthless varie-

APPLES.

A:
Gloucester White,
Henry's Weeping Pippin,
Gray House,
Red Ingestrie,
White Ingestrie,
Lord Nelson, (Kirke's,)
Marmalade Pippin,
Rowland's Red Streak,
Woolston's Red Sweet,
Woolston's White Sweet,
Golden Reinnette,
Pennock, Large Red Sweeting, Red Doctor, Grand Sachem, Beachamnull's, Cathead, Caroline, (English,) Dodge's Early Red, Fenouillet Rouge, French Gray Reinnette, Muscovia, Irish Peach, Pennock, Hoary Morning, Pigeonette, Salina.

PEARS. Croft Castle,
Alexander of Russia,
Admiral,
Aston Town, Green Sugar, Gros Blangart, Green Chisel, Hays, Hathorne's Seedling, Horticulture, Antumn Bergamot, D'Amour, Hastivia, Ipswich Holland, Angers, Beurre d'Angleterre, Beurre Sentin,
Beurre of Boswiller,
Bon Chretien d'Esperen,
Bon Chretien of Brussells, Jargonelle, (of the French,) Kramelsbirne, Lincoln, Louis of Bologna, Bergamotte Sylvange, Bergamotte Fortunee, Beauty of Winter, Lederbirne, Louis Boune, Lansac, Madam Vert, Millar's Seedling, Marquis, Marcelis, Belmont,
Bezi Vaet,
Bruno de Bosco,
Blangent a longue guene,
Bingo Master, Cuvelier, Chat Grille, Chain a Dame, Charles Van Mons, Cassolette, Compte de Fresnel, Copea, Caillat Rosat,

Clara, Clapp, Citron de Sierens, Dearborn of Van Mons, Downton,
Duquesne d'Ete,
Doyenne Mons,
Deschamp's New Late, Dunbarton,
Doyenne Diere,
Endicott, Elton, Frederic of Prussia, Frederic of Plassia, Famenga, Forme Urbaniste, Fantasie Van Mons, Forme des Delicas, French Iron, Green Zair, Grise Bonne,

Garnstone, Green Catharine,

Marcelis,
Navez,
Orange,
Orange Tulippe,
Phillips,
Pittfow,
Platt's Bergamot,
Passe Long Bras,
Prince's Portugal,
Pope's Scarlet Major,
Pitt's Marie Louise,
Royal d'Hiver,
Rouse Lench,
Rouselett St. Vincent,
Sans Pepins,
Swan's Egg,
Surpass Meuris,
Saint Bruno,
Swiss Bergamot, Swiss Bergamot, Sousereine, Sickler, Thompson of New Hampshire, Tucker's Seedling Yrubserhordz Dulle, Whitfield, Winter Orange, Wurtzer d'Automne, Yutle, Crassane, Winter Crassane,

Citron of Bohemia, Madotte.

Scraps about Trees.

1. CHERRY TREES SPLIT BY FROST .- It is well known that the trunks of cherry trees, and especially those of the most vigorous growth, are often split in the winter by the severity of the frost. This is probably owing to the quantity of sap being disproportionate to the wood, which being over-charged by the distension, and incapable of expansion, bursts in the direction of the grain, (as it is called) and sometimes lays open the wood to the centre of the tree. I have been informed of instances where this has proved fatal. I am able, however, to report from my own observation, an instance where no serious injury followed. A cherry tree a dozen years old, and ten or twelve inches in diameter, in the severest frost of winter was split so that one's hand might be thrust to the centre of the tree. The fissure extended from the ground entirely up to the first offset of branches. The remedy applied was to protect the wounded part by a thick covering of woolen cloth closely wound round the tree, and kept there until late in the spring. The parts united the same season, and neither the growth or fruitfulness of the tree seemed to be affected.

Two years afterwards, in the coldest weather of the winter, the tree split again in the same manner, and was treated as before. It flourished and bore the following summer as well as ever, yielding some

eight or ten bushels of cherries.

2. SEEDLING CHERRY TREES .- The tree above mentioned is a seedling, the fruit of which has some affinity to the Black Mazzard, but is larger, thinnerskinned, and more pulpy than any known variety of that cherry. The tree itself is not excelled in size or bearing by any in this vicinity. Eleven bushels of choice fruit have been gathered from it the past year and measured, besides some three or four bushels by estimation, not measured. The yield has been not less than eight bushels in any year, for the last five years; and the tree, being now about eighteen years from the seed, is still rapidly growing. I mention these particulars as suggestive to our nurserymen, upon the subject of experimenting with seedling cherry trees. If seedlings are apt to be more vigorous, longer lived, and greater than grafts; though but one in a thousand should prove of a quality worth preserving, is it not worth while to try them more extensively? I do not mean to insist that the above instance proves that a seedling is in any respect better than a grafted tree, because the favorable circumstances of soil, shelter, supply of moisture, &c., which might be mentioned, may have been so combined as to have produced a similar result without regard to the character of the tree as a seedling. It is adduced as one instance of many, the comparison of which may be of use in connection with the favorite theory of some tree-growers in favor of seedlings.

3. Trees Exposed to Sea-winds.—What species of tree is best for places exposed to the rude winds from the Sea? The Savin is undoubtedly best adapted to these situations, but it is a slow grower, and the method and proper time of transplanting and rearing do not appear to be well understood, at least in these parts. I have tried the Elm with indifferent success, perhaps from want of proper care. Have any of the patrons of The Cultivator on Long Island, or elsewhere on the sea coast, succeeded with the Elm on the immediate bank of sea water, and where there is no shelter from the winds? Let us have the results of their experience. I find the following in that valuable work, "Sears' Pictorial Description of the British Islands:"

"Pennsylvania castle, the residence of the late Governor Penn, is the only place in Portland assuming the dignity of "a seat;" and is also the only spot on which any thing like a clump of trees is visible. An old historian speaking of this circumstance says 'there be very few or utterly no trees saving the elms about the church. There would grow more if they were there planted; yet is the isle very bleak.' This simple remark has been amply verified in the grounds before us. The common sycamore will stand the severest sea breezes, and under the shelter it affords, almost any forest tree may be grown. By surrounding his land with a ring fence of them, Mr. Penn succeeded in embossing his house with a very agreeable variety of trees and shrubs, while all around him was a desert."

The shores of Narragansett Bay, in this State, though beautiful in some of their features, are deficient (and especially the islands) in trees. I am assured that many of the farmers down the bay would border, if not surround their lands with these same "ring fences," if they had any confidence that the trees would grow when there planted.

4. The Aphis on Apple Trees.—This insect has

4. The Aphis on Apple Trees.—This insect has been very destructive to the fruit all along the New England sea coast the last season—more so than ever before. The disease or blight occasioned by it is often mistakenly ascribed to other causes. A friend has related to me his experience in the application of the Whale-oil soap to the trees early in the spring, by which he prevented a recurrence of the plague. If I can obtain the details with sufficient accuracy, I will forward them for publication. J. H. W. North Providence, R. I., Dec., 1849.

Osage Orange Seed.

Much difficulty having been experienced in causing the seed of this celebrated hedge plant to vegetate, various expedients have been devised to remove the difficulty, as soaking the seed, exposing it to frost, &c. We are induced to believe that the failure to grow has often resulted from the long time that has elapsed after gathering till the seed is planted, most of it being procured in Texas, and often a year or two old. Under such circumstances, it must come up more thinly than when fresh. The best success ever experienced by the writer was with seed gathered in one of the Southern States by a careful friend, and forwarded immediately. It was planted with no preparation, and came up very thickly. We would suggest the propriety of dealers employing reliable agents where it is grown, who will forward it when fresh.

The Curculio.

Many persons adopt some particular remedy, to the exclusion of all others. Paving under the tree, repelling by the odors of fermenting manure, jarring down on sheets, shutting out with a high tight fence and destroying by geese and swine, all have imperfectly or wholly succeeded, as the remedy has been partially or vigorously applied, or as the insects have been few or numerous. A combination of two or more of them will often be found most efficacious. Paving, and a high fence are costly, large heaps of manure are not neat, and swine do not always do the work up wholly. Jarring down too often fails from beginning too late, and intermitting too frequently. We have secured completely large crops, in seasons when the curculios were so abundant as that single trees would yield 15 or 20 at a single jar-

ring. The work was, however, begun early, and continued twice or three times a day. Yet the whole labor for 20 trees was not more than equal to the cost of paving one tree. Probably a combination of this mode, with the employment of swine, would answer in nearly all instances.

FREEZING OUT THE CURCULIO.—It is not unfrequently recommended to invert the soil by spading, just before winter, to freeze out the dormant curculios. The writer has pursued this course for several years past, with a number of plum and apricot trees (not, however, with any reference to the curculio,) without the slightest apparent effect on the operations of these depredators.

Wire Fence.

Much has been said in the papers in favor of the cheapness and durability of wire fences. We fear that a few years' trial will disappoint many who have erected them. If the wire is so light as to be afforded at less than two dollars per rod, heavy cattle will frequently snap it by accidentally plunging against it, if it is tightly stretched. If slack, its frequent swaying motion serves in the course of time to crack it off at the post, which tendency is greatly increased by the water which lodges in the holes and gradually diminishes its strength by rusting.

Hardiness of the Buckthorn.

A hedge of three year old plants was set out last year, four hundred feet long. It was done quite late in the season, most of the trees having already made shoots four or five inches long. They were cut down to within two or 3 inches of the ground, and although the roots were not mudded, seareely one in a hundred failed to grow. The dense mats of small fibres which constitute the roots of the buckthorn, are removed from the soil with very little loss, and contribute to success.

The Curculio.

EDS. CULTIVATOR-In this section of the country, for some time past, the plum crop has with but few exceptions, fallen a prey to the curculio or plum weevil; so much so at least that the fruit-growers in this neighborhood have become quite discouraged in attempting the cultivation of this valuable fruit, from the fact that their labor is lost, their expectations blasted; and they have the mortification of seeing nearly all, or indeed, often, the whole crop fall from the trees when half or two-thirds grown. I have tried several remedies to preserve my plums from the ravages of this uncompromising foe of all smooth-stoned fruits, such as the use of salt, and gathering up the punctured fruit, &c., with but little success until this season. Having read in your valuable journal, The Cultivator, of June, 1848, on page 182, a plan for destroying the curculio, and preserving the fruit, which was the jarring down of the insects on muslin, and so destroying them, I adopted the plan; and having furnished myself with an umbrella eight feet in diameter, covered with white muslin, with an opening between the arms to receive the trunk of the tree, and a mallet cushioned at the end to prevent its injuring the bark of the tree; as soon as the blossoms had fallen and left the newly formed fruit exposed, I commenced a vigorous attack upon the wily foe, which had already commenced the work of destruction, by jarring them down on the umbrella spread under the trees to receive them. This I repeated every day for nearly two weeks, or as long as a curculio could be | ing.

found, during which time I captured thousands of the foe; and the result was that I had the satisfaction of seeing my plum trees loaded with an abundant crop of fine ripe fruit, while those of my neighbors were nearly or quite destroyed, especially those of the choicer varieties, which seem to be more subject to the attacks of the curculio than those of less merit; and I believe any one who will take the pains to try the above plan, will find his labors crowned with success. R. H. DRAKE. Blooming-burgh, Sullivan Co., N. Y., November 14, 1849.

The Everbearing Raspberry.

EDS. CULTIVATOR—Your correspondent in The Cultivator for November, has not, I believe, cultivated the Ohio Everbearing Raspberry sufficiently to judge of its bearing qualities, and the best soil for it. I have cultivated in my garden for 17 years, this plant, in a rich, deep, porous soil, and the first crop is a very large one. But my soil is too dry for it during the summer and fall, and my vines bear sparsely the residue of the season. In the gardens of Mr. Buchanan, Mr. Ernst and others, in the vicinity of the city, where the soil is a natural one—rich, but not deep,—stiff, with a subsoil of clay,—they have an abundant supply till frost, and the fruit of the succeeding crops is much larger than the first.

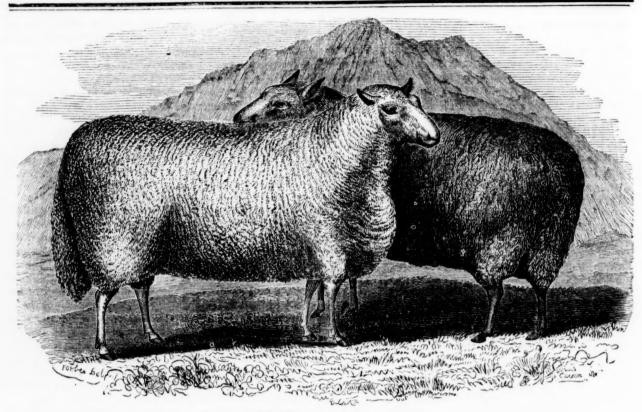
In Newark, New Jersey, in the garden of my sister, where the soil is poor, but stiff, the shoots do not grow half the length that they do in my garden, yet the fruit is larger, and the crops four fold, compared with mine. A majority of persons at my table prefer it to the Antwerp, when both are on the table. I prefer the Antwerp. It certainly belongs to the Black Cap family. Could it not be crossed with the Fastolff or Antwerp, and its everbearing character retained?

I concur with your correspondent in opinion about the Alpine strawberry. In some climates and soils it may succeed better than with us. I believe this to be a distinct kind, and that from a cross with our scarlets, bearing seedlings cannot be produced. By the way, have your Eastern cultivators come to any settled opinion, about the absolute necessity of cultivating pistillate plants, where an abundant crop, or even half a crop is an object. Mr. Ernst informs me, that the present President of the Boston horticultural Society, is of opinion that in an average of years, he can raise as full crops from the hermaphrodites alone, as where 11-12th are pistillate. I know that the opinion of the late President was directly the reverse of this. With us, not one of your hermaphrodites, will average one-fifth of a crop.

I shall this fall, move all my Ohio Everbearing raspberries, to the gullies in the Garden of Eden, where the soil is thin and stiff; where the blackberry grows and bears much finer than in my garden, and an abundant crop through the season will be certain. N. Longworth. Cincinnati, O., Nov.

LARGE APPLE TREE.—The Boston Traveller says a large apple tree at Duxbury, sixteen feet in circumference a foot or two above the ground, (5 ft. in diameter) and over a hundred years old, bore in one year fruit which made ten barrels of cider, in addition to thirty barrels of apples put into the cellar.

HEDGES FOR FLOODED LANDS.—M. B. Batcham, of the Ohio Cultivator, states that a two-year-old osage orange hedge was submerged a week without injury, where peach trees were killed by the flooding.



CHEVIOT RAMS,

Which received the prize of the Highland and Agricultural Society of Scotland.

The Cheviot Breed of Sheep.

There are various reasons why, in a country like ours, it is expedient to keep several breeds of sheep. Different qualities of wool are required for the manufacture of different kinds of goods; and for our great range of climate and diversity of soil and aspect, animals of different characteristics, as to constitution and habits, are required for the different locations. The sheep which produce the finest sta-ple of wool, are unsuited to coarse food and exposure to great changes of weather. So too, in regard to the production of mutton; those breeds which attain the greatest size, and fatten most readily, with an abundance of food in a mild climate, have not the hardiness and muscular vigor necessary to adapt them to cold and mountainous districts. Hence, in Great Britain we find the Leicesters, Lincolns, and other heavy long-wooled breeds, occupying the warm and fertile valleys and rich grass lands; the South Downs and similar breeds, the intermediate uplands; while lighter and more active breeds are kept on the heaths and mountains of Wales and Scotland.

From the increasing demand and enhanced price of mutton in this country, many farmers have lately turned their attention to the production of this article. With this view, different breeds of English sheep have been procured. The Leicesters and South Downs have been considerably tried, and with varied success. In some instances both have failed from improper management. But in general, we think the Leicesters have hardly sufficient hardiness to endure the extremes of temperature, from the heat of summer to the cold of winter, which occur in our climate. It is true they vary in this respect, and some skillful breeders have given to their sheep much better constitutions than those of this breed in general possess. The improved Cotswolds, or New Oxfordshires, though derived from crosses with the Leicester, are more hardy and produce more

wool. For many situations, it is desirable to obtain a breed more hardy than either of these.

The Cheviot breed, represented by our cut, is not at present, much known in this country. We have heard of only two importations; one by Hon. Daniel Webster, of Massachusetts, and one by Col. T. J. Carmichael of Wisconsin. From the locality they occupy in their native country, and from all we can learn of their qualities, we think they would be valuable for many parts of the United States. In answer to an inquiry, Mr. Webster writes us in regard to his Cheviots, as follows:

"They are very handsome, coming fully up to the cuts of them which you find in the English publications. I do not think mine are very large, as my pastures are not rich, and I have taken no particular pains with them. I have had no very great experience of them, as to their mutton, as yet; but some wethers have proved very good. I think the breed fattens readily."

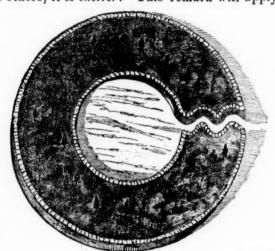
They take their name as a breed, from the Cheviot range of hills, on the border of England and Scotland, where they have existed from time immemorial. They have lately been improved by a cross with the Leicesters; and have been adopted with great success in many parts of Scotland, heretofore occupied by the black-faced mountain sheep. In relation to the breed, Martin gives the following description:

"They are full behind the shoulder, and the forequarters are justly proportioned to the hind; they are straight in the back, round in the rib, clean and small boned in the limbs; the wool, which is of a quality useful for many combing purposes, comes forward behind the ears, but leaves the face uncovered. The Cheviot sheep is capable of enduring much cold and privation; it possesses considerable fattening properties, the wethers being ripe for the butcher at two years of age; and averaging from 15 to 18 lbs. the quarter. The mutton is excellent. This description applies to the Cheviots with a cross of the Leicester. In all that regards size, form and contour, they are superior to the old breed; but the wool has become coarser and longer."

Count de Gourey, a French gentleman who made a tour through England and Scotland in 1840, thus speaks of the Cheviot sheep which he saw on the mountains of Sutherland:

"I was surprised on going over these horrible mountains and miserable pastures, to see them stocked with such fine animals, yielding, on an average, five pounds of long and beautiful wool, washed upon the back; wethers three and a-half years old, without having eaten any other thing than what is to be found in these wilds, weighing, alive, 200 English pounds, together with ewes that at 5 years old, and with he same feed, are fat, and weigh from 60 to 70, and even 90 pounds. What I have seen in this journey, makes me more convinced than ever, that the Cheviet breed is one of the highest merit; since they live and prosper on such land, under such a severe climate, and that, too, without other food than what these wilds furnish."

PROTECTION FOR SHEEP.—If there is one point in sheep-husbandry of more especial importance than all others, it is shelter. This remark will apply to



Stell for sheltering Sheep.

almost all countries where sheep are kept; though the character of the shelter may vary of course, with the nature of the climate. In southern latitudes it is not necessary to guard against deep snows; but most sections are subject to violent storms of rain which are very prejudicial to the health of sheep, if obliged to endure them without some protection.

The circumstances which affect the keeping of sheep on our western prairies, and on the mountains of our southern states, must bear some analogy to those of Scotland; and if this kind of stock is ever made protfiable on a large scale in those parts of our country, ample protection from the driving storms and boisterous winds which there prevail, must be provided. For this reason we have thought it proper to introduce here, a description of a kind of shelter which has been resorted to in Scotland with great advantage. The flocks kept in the mountainous region of that country, formerly suffered immense destruction during winter, when

Sweeps up the burden of whole wintry plains
At one wide waft, and o'er the hapless flocks,
Hid in the hollow of two neighboring hills,
The billowy tempest whelms, till upward urged,
The valley to a shining mountain swells,
Tip't with a wreath high curling in the sky."

The shelter to which we allude, has been found an efficient protection against the storms which pre-

vail in the Highlands; and to give some idea of their severity, it may be useful and interesting to the reader to peruse a brief description of the con sequences of one, which occurred before this kind of shelter was introduced.

Hogg, the "Ettrick Shepherd," describing the effects of the storm of the 24th and 25th of January, 1794, says—" it fell with peculiar violence on that division of the south of Scotland which lies within Crawford-muir and the Border. There perished within these limits, seventeen shepherds; and upwards of thirty were carried home insensible who afterwards recovered. The number of sheep that were lost, outwent any calculation. One farmer alone lost seventy-two scores, and many others in the same quarter from thirty to forty scores each." He adds, that when the snow melted, it caused a flood, and after the water had subsided, there were found, at a place called the Beds of Esk, on the shore of Solway Frith, 1,840 sheep, 9 neat cattle, 3 horses, 2 men, 1 woman, 45 dogs, and 180 hares, besides a number of smaller animals.

William Hogg,—who, like his namesake, the Poet of Ettrick, has been "a keeper of sheep," in a communication to the Scottish Quarterly Journal of Agriculture, written in 1843, gives a vivid account of this storm, to which in guarding his sheep, he was exposed in person. "The storm sheep, he was exposed in person. came on in its greatest severity in the night, and was heavy beyond all former precedent. Mr. H. says-" I was in a lone, desolate part of the mountains, and felt the snow as it fell, like a dead weight on my shoulders, and the desert place seemed to sigh with the extraordinary burden which lay upon it." When the clouds finally dispersed, he says "I was glad and I ought to have been thankful, when I once more felt the sun's cheering beams; but such a scene! The poor creatures lay huddled together dead, in dozens, scores and hundreds; the extraordinary severity of frost and strength of wind had reached their vitals, I think, in a few minutes after foundering down with cold; many were also smothered deep at the bottoms of immense wreaths, and were not found till the thaw came. There was scarcely a pastured district where there was not some human being perished, and many sheep."

The serious losses sustained in the manner above described, induced the farmers to turn their attention, earnestly, to the means of protecting their sheep; and after having tried structures of various kinds, the superiority of those represented by the accompanying cut, has been fairly demonstrated. These structures are called stells, and the one here delineated is called an "inside stell." It consists of two concentric circles of wall, enclosing a plantation of fir, or other evergreens, having a circular space in the centre for sheep. This centre may be of any size desired; if it is from 30 to 60 feet in diameter, it will accommodate from seventy-five to one hundred and fifty sheep. A sufficient number should be erected to accommodate the whole flock. This belt of trees completely secures the sheep in the enclosure from the force of the wind, affording a quiet and safe shelter at all times. The walls of the passage are made winding, which prevents the wind from blowing into the central space.

In this country, it is probable, the best trees for such plantations, would be the red and white cedars, hemlock, spruce and fir. A belt of a rod in width, if the outside was planted sufficiently close, would soon form a screen, and admirably shelter the inside enclosure.

These stells should constitute the feeding yards. In, or near them the fodder should be secured. The

feeding racks may be placed under cheap sheds, made of boards, or with poles covered with straw. In these protected situations, they would not be blown down by wind. Where stones cannot be had for forming the walls, turf embankments will answer to protect the trees while they are small; after they have become strong, they will need no protection. The manure could be all saved here, and carted to places where it was most needed.

In regard to the location of these structures, Mr. William Hogg directs that they be "situated on that department of a farm where the sheep most easily congregate in times of difficulty. Their particular site should lie apart from rocks, steep or abrubt precipices. Such obstacles to the tempest on-ly redouble its fury, and at uncertain intervals throw the regular current of the wind and drift into furious rushes, almost in every direction. If it be possible, they should be placed where the general stream of wind is not obstructed nor hurried by any object on the earth's surface, but where it blows

constantly, open and free."

With such shelter as is here proposed, the health and vigor of the sheep would be secured, and the great losses which are now annually sustained from undue exposure, would be avoided. The sheep will undue exposure, would be avoided. naturally gather round these sheltered places in inclement weather, and will pass and repass, as they find most conducive to their comfort. Their health and strength being preserved, they will eat their food with a good appetite, and will graze, or feed at the racks, according to the state of the weather. "Instinct" as a Scottish writer observes, "will teach them when to fly for shelter, and when to return to the pasture; at the same time the shepherd may be with them, rejoicing in his own safety as well as theirs."

The Farmer's Note-Book.

Subsoil Plowing.

EDS. CULTIVATOR-Professor Johnston, in his Agricultural Chemistry, observes that in sandy, and generally all light soils, of which the particles are very fine, the capillary action is of great importance, and intimately connected with their power of pro-ducing remunerating crops. That they absorb the falling rains with great rapidity; and these carry down the soluble matters as they descend. On the return of dry weather, the water re-ascends from the lower strata, and again diffuses the soluble ingredients through the upper soil. A writer in the October number of the Horticulturist, remarks that this action is very much aided by a trenching of such soils, provided the best soil is always kept on the

Now this commends itself as sound reasoning; and yet, it is so unlike the results of an experiment I tried the past summer, on similar principles, that I am constrained to submit the case to you, and learn in what manner you will account for a difference I shall proceed to state, without repudiating this doctrine.

It was conducted upon a piece of five acres of land—a sandy loam—resting upon a subsoil of yellow loam. There was drawn upon it, the past winter, some two hundred loads of manure, which in the spring was evenly spread, and the ground plowed; using on one-half of it a subsoil plow, that was driven eight inches deep, making a united depth of sixteen inches with both plows. It was then

thoroughly harrowed, and on the 12th of May planted to corn.

The early growth of it was soon vigorous and luxuriant, with no perceivable difference between the portion subsoiled and the other, and so continued until about the middle of July, when it all became very much affected by the severity of the drouth that prevailed. It was then I expected to realise the advantages of the subsoil plowing, in a facilitated capillary attraction, as well as a more abundant aliment from the wider and deeper range thus secured to the roots; but it was not perceptible, nor did any difference manifest itself until the harvesting the crop. All of it having suffered very much from the effects of the drouth, and, so far as I could judge, alike.

That portion of the row, up to the point where the subsoiling commences-and which was of the same length, and contained the same number of hills as that subsoiled-yielded one-half bushels of ears of corn more than the part subsoiled. And this difference was very nearly uniform in each row,thus proving, very conclusively, that the subsoiling, so far at least as this crop was concerned, was a

decided injury rather than benefit.

Now, Messrs. Editors, you who are "bound to know everything," will you please account for this difference? You see, readily, that it is at war with the theory quoted at the outset; nor does my mind suggest any reason, satisfactory for it, save one, at variance when applied to this character of soil, and it is, that the readier escape of moisture, from the greater depth, is not made good by an increased capillary action; and that in a season like the past, unusually dry, the crop consequently suffers more. With a more tenacious subsoil, this would not be.

Indeed, I am some doubtful of the expediency at all of the subsoil plow, for this character of soil; but more from the results of this experiment than any actual knowledge on the subject; and I shall be greatly obliged to you, in common I presume with many others, for any reliable information that will elucidate this point. P. Waterville, N. Y., November 10, 1849.

The above results are different from any which have before come to our knowledge, in relation to subsoil plowing. We shall not attempt to explain them; but would suggest that the crops, on the subsoiled and unsubsoiled portions, be carefully noticed the coming and succeeding seasons. EDs.

Mayweed-Corn Chamomile.

EDS. CULTIVATOR-Among the many noxious weeds that have been introduced into our country, there is scarcely one that is more to be dreaded by the farmer than the Anthemis arvensis, commonly called corn chamomile, or wild chamomile. On account of its close resemblance to the Maruta cotula, or mayweed, the two plants are confounded, and supposed to be the same by many. The mayweed was called Anthemis cotula by Linnæus and others; but De Candolle and, after him, most of our best botanists, have placed it in a different genus. The wild chamomile is easily distinguished from the mayweed by the larger heads of its flowers, and from wanting the strong, unpleasant smell peculiar to the mayweed, and by its botanical characters. The Anthemis arvensis is a native of Europe, Asia Minor, and is frequent in Egypt. As yet, it is sparingly naturalized in the United States,—being found in parts of New-England, New-York and Pennsylvania. In western New-York we have seen whole fields of wheat nearly choked out by this vile weed. It grows very thick, and from one to two feet high, with the branches intertwined, so that it is very difficult to gather what little wheat is left

standing.

The Anthemis arvensis is an annual, as is also the mayweed. One root sends forth a great many branches which have a great many flowers, and then a great many seeds. Hence, it increases very rapidly; and having once obtained possession of a field, it is very difficult to be eradicated. Many of the seeds come up in the fall, and produce flowers and seeds the next season, while, perhaps, other seeds will not germinate until spring; and if the ground be plowed so as to bury them deep, others may remain without germinating for years, until a subsequent plowing brings them near the surface, and the light and heat of the sun causes them also to germinate.

To destroy the seeds, some farmers thresh their grain with machines in the field, and burn the straw immediately. But after the top of the Anthemis is cut off at the time the grain is harvested, the root sends forth new branches, which flower and bear seeds until the old plant is destroyed by severe

cold weather, at the approach of winter.

During a recent visit to Cayuga county, where several farms are infested with the Anthemis arvensis, we were told by an intelligent farmer, who had labored hard to destroy it, that he considered it more difficult to be eradicated than the Canada thistle. The Maruta cotula, or mayweed, is much more widely diffused than the Anthemis arvensis, abounding along road sides in large portions of the northern states, as far west as Missouri. It abounds in the fields and roadsides of Europe, Persia, and the adjacent countries, and in Brazil. It is said by Linnæus to be a very grateful plant to toads, to drive away fleas, and to annoy bees. It is a trouble-some weed; yet we believe it does not often spread over fields to the great injury of crops, like the Anthemis arvensis. S. B. Buckley. West Dresden, Yates county, N. Y., November 12, 1849.

Saxon Sheep.

WM. H. LADD, of Richmond, Jefferson county, Ohio, makes the following proposition:—"I propose to meet any number, not less than 20 breeders of Saxon Sheep, at any suitable time and eligible place in the United States, and enhibit each one Saxon Ram, as competitors for the following premiums: The amount necessary for obtaining said premiums to be raised in equal sums by the competitors, in the same way as it is done by the members of the different Agricultural Societies.

"To the best, a silver cup or pitcher, worth \$30, other silver ware worth \$30, and \$40 in money.

2d best, silver ware,\$40	and	\$40
3d, 40	and	30
4th, 30		
5th, 25		
6th, 20		
7th, 15	and	15
8th, 15	and	10
9th, 14	and	7
10th, 10	and	8."

It is suggested that the exhibition be held at Cincinnati, in 1850, at the same time of the Ohio State Fair, provided that fair does not occur before the middle of October, as at an earlier period the wool would not be grown to a sufficient length to be fairly judged of. An arrangement should be made to have all the sheep exhibited, shorn on the same day. The competition is to be open to all the States of the Union. Those persons

intending to compete are requested to notify T. C. PETERS, editor of *The Wool-Grower*, Buffalo, or M. B. BATEHAM, editor of the *Ohio Cultivator*, Columbus, Ohio, before the first of March next.

We hope the proposition will succeed; such an exhibition would be of great advantage to the growers of

fine wool.

Castor Oil Bean.

EDS. CULTIVATOR—As a preliminary to the answer of your correspondent, who requests some one to inform him of the manner of raising the Palma Christi, or castor oil bean, and obtaining the oil therefrom, permit me to premise, that if he resides in this state, or any of the New-England states, he will find the raising of the castor oil bean an unprofitable business; for I am satisfied from experience, as well as from other sources of information, that the business cannot be profitably carried on in the United States, further north than the 39th or 40th parallel of north latitude.

In the summer of 1822, I raised, as an experiment, three or four bushels of the beans, and sold the oil at \$4 per gallon. I was satisfied the business might be made profitable, and the following year I planted and raised 13 acres on choice rich land. I manufactured the beans into oil, which had now fallen in price to \$1.37½ per gallon. I calculated the probable amount of corn that could have been grown on the same land, and found I would have saved 100 per cent. by substituting the corn for the beans.

The plant in question appears to be indigenous to both the East and West Indies,—consequently does not do so well in northern as in southern latitudes. In this state, from ene-third to one-half the crop never comes to maturity. This fact will be readily understood by any one who has ever noticed its growth in our gardens. The plant, when two or three feet high, sends off a shoot from ten to twelve inches in length, thickly studded with the seed-vessels; and when this crop has arrived nearly to maturity, another one above it will be scarcely out of the blossom; and thus it progresses, till nipped by the frosts of autumn. Out of eight to ten of these little crops, which rise in succession one above the other, not more than three or four of them usually ripen in this climate; whereas, in the southern states, the climate is favorable to its complete maturity.

The land should be prepared the same as for Indian corn; planted and hoed in the same manner, with the same number of seeds in a hill. When a part of the capsules on the lower stems show signs of maturity, by a part of them turning brown, you may pass through the field with a basket and knife, and gather them,-leaving the remainder until the second crop ripens, which will be from one to two Thus you will pass over the field as many times as the succession of crops will demand. If the harvesting is neglected until all the capsules on the stem are ripe, your crop will be lost,-the capsules bursting spontaneously, throwing the bean from five to twenty feet. In this manner they are all shelled out, after being harvested, with no other manual labor than to protect them. To do this, lay manual labor than to protect them. a platform with boards, say 12 feet by 24 or 36, as occasion may require, with sides from 2 to 3 feet in height. Let the floor descend a little to the south; in this way the beans have a fairer chance to dry, and the water to run off, in case of their getting wet, which should be prevented, if possible, by having a very light roof, which may be moved off or on at pleasure with a windless. Two or three

days of bright sun will shed what will cover the floor a foot deep, if kept drying by turning them once or twice a day. In extracting the oil, I used the press of the common linseed oil mill. I pressed one bushel at a time. They were first warmed to a little over blood heat, to give the oil sufficient fluidity, without any grinding, and subjected to the full power of the press. The first run gave one gallon of what is commonly called " cold pressed oil." The cake was then crushed under the grinder, and one to two quarts of water added while grinding or mashing. It was then brought to a steaming heat, and again pressed, when I usually obtained another gallon of oil of a somewhat inferior quality, denominated "hot pressed oil." A process is now to be gone through with, equally as necessary, and perhaps more difficult, than any of the former. The oil must be clarified, or it will soon become rancid and unfit for use as a medicine. Suppose you have a kettle, holding ten gallons; into this turn five gallons of oil and one gallon of cold water; hang it on a crane over a slow but steady fire, stirring it oceasionally till it boils, which may be within one hour. A thick seum will arise, resembling that which occurs in scalding beef brine, which must be skimmed off, and the skimmings saved. Let the oil remain over the fire from ten to fifteen minutes, after the seum has all disappeared, but not allow it to boil, and then strain through flannel, and the process is done. Take the skimmings that remain and subject them, without any additional water, to the same boiling process as the former, and the same result will follow. It may hardly be necessary to caution the operator to remove the oil from the fire, if it should show signs of boiling over. S. SPENCER. Westfield, Chautauque co., November 10, 1849.

Gathering Clover Seed.

I have used a wooden machine, made like a cranberry-rake, on a large scale, to gather my clover-seed this season, with good effect; but it has occurred to me that the enterprising farmers of the East must have a more complete machine, the teeth probably made of iron, and my object is to get a description of a more perfect contrivance, that I can get one made. The difficulty with my wooden machine is, that it clogs and causes much delay.

Again, what is the best machine for cleaning clover seed, and where and on what terms can we most conveniently get it? C. W. CATHCART. New Durham, Laporte Co., Ind., 1849.

We trust some one will furnish the information called for above. Eds.

Culture of Turneps.

We believe the farmers of the Northern and Eastern States, may make the culture of turneps profitable, as an auxiliary crop—especially on the lighter kinds of soil. The roots tend greatly to the improvement of soils of this description, particularly when fed off by sheep. The soil becomes rich, and at the same time, acquires the proper degree of compactness, which fits it for the production of wheat and the grasses. In England, some of the best wheat crops are raised in sandy districts, where formerly, this grain was not grown at all. We have seen some instances in our own country, where the effects of turnep culture have been quite as remarkable. We might cite, for example, the farm of Mr. McIntyre, on the sandy plain west of Albany, a tract which, till lately was regarded as of trifling value; but which has, chiefly by means of turneps and sheep, been brought to a state of productive-

ness that will compare favorably with the first class of

It is true, that in our climate, we cannot feed turneps on the land with the advantage that is derived in the milder atmosphere of England; but it may be profitably done even here, for at least two months in the year, or generally through October and November. This is a season of the year in which grass is commonly short, and the turneps will carry out, well, cattle or sheep designed to be slaughtered at the close of the season, or they will give them an excellent start for stall-feeding in winter.

At the late meeting of the Norfolk County, Mass., Agricultural Society, Mr. Webster, in his speech at the dinner-table, alluded to this subject, and spoke of the success which had attended his trials in turnep-culture at Marshfield. He said:

"There is nothing that I know of in my mode of culture of the thin and light lands which I possess, different from the general method of cultivation in the Commonwealth except this; that I have been persuaded, by reading, and by observation abroad, that there is one species of cultivation almost unknown in the state of Massachusets, which is still very well suited for the counties of Norfolk, Plymouth, Bristol, and other places where there is a great proportion of light land; I mean the root cultivation—that of turneps and beets. And from all flights of oratory upon Agriculture, I come down to simple beets and turneps, and to give you one word upon that subject. The time is coming when the light lands must yield themselves to this culture."

He states that on his farm, naturally very light and poor, he raises turneps that he is "willing to show to and compare with any farmer in Yorkshire."

It is, however, a modified turnep-husbandry that we designed particularly to advocate at the present time; we would not adopt it to the exclusion of Indian corn, but as an auxiliary to this and other grain crops. We recommend it especially as an efter crop, not interfering with the regular course of cropping. For instance, it may be sown after rye or hay, have been taken from the ground. There are several varieties which grow so rapidly that they will give a good yield if sown as late as the 20th of July to the 10th of August, and sometimes when sown later.

times when sown later.
On the farm of Wm. O. BARTLETT, Esq., Worcester, Mass, we lately saw an excellent crop produced on a rye stubble. The soil was gravelly, on a porous, granitic subsoil, and three years ago was regarded as completely worn-out. It has been heavily manured with a compost of peat saturated with urine and mixed with barn-yard manure. The stubble was plowed immediately after the rye was harvested, the ground rolled, and the turnep seed, (of the English round purple-top variety) sown from the 20th to the 25th of August, with Emery's machine, in rows two feet apart. The crop was never hand-hoed, and only a portion of it thinned—the only cultivation being done with the cultivator and the subsoil plow. The crop was very clean from weeds, though there was some rye among it, which however, did not appear to have much checked the growth of the turneps. We should think the crop on the whole field, seven acres, would average 500 bushels per acre, and there were portions which would give double that yield.

Mr. B. showed us another lot of turneps, which were produced at even less expense than the one above-mentioned. It grew on a drained bog. The surface was covered with small shrubs and coarse herbage, the roots of which formed a close net-work two or three inches deep. While the ground was dry, the surface was set on fire, and this fibrous covering was reduced to ashes—the fire going to just about the depth that the roots

were closely matted. The turnep-seed was sown broadcast in this bed of turf-ashes; a slight shower buried it, and gave sufficient moisture to bring up the turneps. The crop was never touched till harvested. There was not a weed in it—the whole surface was turneps as thick as they could stand, and many of the bulbs were so crowded out that nothing but the tap-root, not larger than a goose-quill, connected them with the soil.

Now what crop could be raised that would make as much beef, or mutton, or manure, with so little expense as turneps, produced in either of the ways here men-

tioned.

Imported Cattle .-- Bates' Stock.

The August number of the "Cultivator," for 1849, contains an article on the "recent importation of short horns," which does not entirely coincide with my views. The writer, referring to the bull, 3d Duke of Cambridge, which he had the honor of importing, says: "Breeders, desiring the blood of Mr. Bates, can no where else in this country, procure it with such high characteristics of style, quality, symmetry, and substance."

Allow me here, before discussing this paragraph, to remark, that honorable competition in breeding domestic animals, cannot fail to be a fruitful source of improvement, and should be countenanced and encouraged by every individual who desires to see the stock of our country raised to that high standard which its importance so justly merits and demands. The individual, however, who enters upon this enterprise with a desire and a determination to excell, will soon find himself surrounded with perplexities and prejudicies, which he little anticipated; and, however desirous he may be to avoid controversy, circumstances may occur, justice, both to himself and the public, demands that he should no longer remain silent. Experience will also sooner or later prove, that there is neither honor or profit to be acquired, by resorting to the frail support of either directly, or indirectly, assailing, or endeavouring to disparage the stock of others, by the assumption of high sounding pretensions, which cannot bear the test of truth and scrutiny.

But to the point. We presume no one will deny, that any one animal from any herd, to possess the power of imparting to his produce, "higher characteristics of style, quality, symmetry, and substance," than any other animal from the same herd, must possess more of the choicest blood of that particular herd. To doubt this, is at once questioning the efficacy of blood animals. The most natural inquiry, therefore, which would arise from a perusal of the paragraph quoted, would be-" What is the particular strain of blood, in the late Mr. Bates' herd, which is superior to all other, and which gave him such a deservedly wide spread fame and reputation as a breeder?" Now let this simple fact be clearly defined, and if 3d Duke of Cambridge possesses more of such blood, than any other animal in this country, then he may be fairly entitled to his claimed position of superiority. This is a point of the greatest importance to breeders of Shorthorns in this country, and particularly so, to "all who wish to procure the blood of the late Mr. Bates' herd."

In order, therefore, to prove to the public conclusively, and to place the matter beyond the possibility of a doubt, that the choicest blood of Mr. Bates' herd consisted in his pure, unalloyed Duchess tribe, we quote his own opinion, from a communication addressed to the publishers of the print of his bull, Duke of Northumberland. After giving the pedigree of this bull, Mr. Bates says:—

"The whole of this family" (Duchess family, S.P.C.)
of Short-horns are alone in my possession, having pur-

chased my original cow of this tribe of cattle of the late Charles Colling, Esq., of Ketton, near Darlington, 35 years ago. They had been in the possession of Mr. C. Colling, 20 years, who purchased his original cow from Stanwix, of the agent of the late Duke of Northumberland, and called her Duchess, (which is the reason I have named the bull after that family,) as they are justly entitled to be held in commemoration for having possessed a tribe of cattle which Mr. C. Colling repeatedly assured me was the best he ever had or ever saw, and that he was never able to improve upon her, although put to his best bulls. And I have undoubted information from the best authority for saying that this tribe of Short-horns, were in the possession of the ancestors of the present duke, for two centuries; and that Sir Hugh Smythson, the grandfather of the present duke, kept up the celebrity of this tribe of cattle by paying the utmost attention to their breeding; and that he used regularly to weigh his cattle and the food they ate, to ascertain the improvement made in proportion to the food consumed; a system I adopted nearly fifty years ago, not knowing that it had been previously done; and from a minute and close attention to this subject, I obtained that knowledge of cattle, which enabled me to judge of their real merits by their external characters—and which I have never found to fail in my experience for above forty years as a breeder. From that knowledge, thus acquired, I selected this tribe of Shorthorns as superior to all other cattle, not only as small consumers of food, but as great growers and quick graziers, with the finest quality of beef, and also giving a great quantity of very rich milk. The cow I bought of Mr. C. Colling, in 1804, calved at Halton Castle, in Northumberland, June 7th, 1807; she was kept on grass only, in a pasture with nineteen other cows, and made in butter and milk for some months, above two guineas per week, or forty-two shillings in English money."

We have in this entract, the opinion of Mr. Bates himself, in regard to the Duchess blood, as being superior to all other—also confirmed by the opinion of Mr. Charles Colling, who repeatedly said, it was the best he ever had or ever saw.

Now, whether this 3d Duke of Cambridge possesses more of such blood, or, if you please, has the blood of Mr. Bates' herd, with "higher characteristics of style, quality, symmetry and substance," than any other bull in this country, a brief reference to pedigrees will show.

"Pedigree of the 3d Duke of Cambridge, (5942.) Roan, calved September 14th, 1841, bred by Thomas Bates, property, &c. Got by Duke of Northumberland (1940); dam Waterloo II., by Belvidere (1706); grand dam by Waterloo, (2816); g. g. dam by Waterloo, (2816)." [Coates' Herd Book, 4 vol., page 614.]

By this pedigree it will be seen that 3d Duke of Cambridge possesses only one quarter of Duchess blood—his sire, Duke of Northumberland, being a half Duchess bull, and his dam Waterloo II, having no Duchess blood in her.

Among the individuals who have imported stock to this country from the late Mr. Bates' herd, we believe the importations of Mr. George Vail, of Troy, N. Y., have been the most extensive. In 1839 or 40, this gentleman imported direct from Mr. Bates, a bull calf. Duke of Wellington, and a heifer, Duchess. For the purpose of comparison, we insert the pedigree of Duke of Wellington, 55, [3654] as given by Mr. Bates:

"Roan, bred by Mr. Bates, &c. Calved Oct. 24th, 1839; got by Short-tail, (2621); dam Oxford, (having obtained the first prize for the best Short-horned cow, open to all England, in July, 1839, given by the Royal English Agricultural Society,) by Duke of Cleaveland, (1937); g. d. Matchem cow, by Matchem, (2281); g. g. dam by Young Wynyard, (2859) sometimes called Young Wellington."

By this pedigree it will be seen that Wellington's sire, Short-tail, was also a half Duchess bull. So far then his equality with Cambridge, as to Duchess blood, is established. But if we examine a little farther into this pedigree, we shall find that Wellington's dam, Oxford Cow, was also got by a half Duchess

bull, Duke of Cleveland. Consequently, the produce of Wellington, from a cow without Duchess blood, would possess nearly as much Duchess blood, as Cambridge himself.

For the illustration, and to show the public that there are other animals in this country that possess more Duchess blood than Cambridge, we insert the pedigree, in part, of Mr. Vails' Duchess:

"White—bred by Mr. Bates, &c. Got by Duke of

"White—bred by Mr. Bates, &c. Got by Duke of Northumberland [1940], dam Non-such the 2d, by Belvedere [1706], g. dam Non-such by Magnet, [2240.]" &c. &c.

Mr. Vail's prize bull, Meteor, 104, was out of this heifer, and his sire is Duke of Wellington. He has therefore three crosses of the Duchess blood, and so also have the bulls Mr. Vail has sold to Col. Sherwood, of Auburn, N. Y., (and we can well bear testimony to the worth of this bull, Symmetry, as we have a cow of his get, and a very superior animal she is,) Col. Hampton, of S. C., Messrs. Ferguson and Wetenhall, of C. W., and Thomas Hillhhouse, of of Watervleit, N. Y. We might continue this account, as Mr. Vail has three more imported cows, sent him by Mr. Bates, all of which possess strains of the Duchess blood, but we deem it unnecessary.

We learn by the agricultural papers, that that whole of the late Mr. Bates' herd are to be sold the coming spring or summer; and consequently the Duchess tribe which Mr. Bates has always retained exclusively in his possession, will be dispersed in the hands of many. From the enterprise which has thus far characterised Mr. Vail, as a breeder, we sincerely hope and expect he will not let this opportunity pass, without the introduction of one or more animals of the full Duchess blood, into his herd. He has already done much to bring the Bates Stock into deserved reputation in this country, and the benefit which its introduction has conferred upon other Durhams, which have received only a single cross of this strain of blood, is immense. We hope he wil! now introduce the Duchess blood without alloy; and we confidently expect the day would not be far distant, when the price of the American Short-horns, will compare favorably with the high sales of this stock in England. S. P. CHAFMAN. Clockville, Mad. Co., N. Y., Dec. 1849.

Hamilton College.

At a recent meeting of the trustees of this institution, Oren Root, A. M., of Seneca Falls, was elected to succeed Professor Catlin, deceased, in the depart-of mathematics and astronomy. Mineralogy and geology were added to this department, and measures were taken to secure the removal to Clinton, of Professor Root's Cabinet, which is one of the largest and best mineralogical collections in the country. It embraces about 7000 specimens, gathered from every quarter of the world. Its connection with Hamilton college will render its facilities for instruction in the natural sciences, equal to those of any college in the country.

To those who are interested in the march of improvement, it cannot but be gratifying to notice how rapidly our higher institutions are conforming to the practical spirit of the age. Hamilton college certainly deserves well of the community, for its rodiness to comply with the demand for those kinds of learning which are suited to the real wants of life. Time was, when Latin and Greek were the only languages taught; now German and French are added. Time was, when most of the senior year was devoted to disciplinary studies, now it is wholly given up to practical studies. Legal and political science is studied more thoroughly and extensively than at other similar institutions. Full courses of lectures are given on civil engineering, on

agricultural chemistry, and on anatomy and physiology. Great attention is also paid to elocution and kindred exercises. Professor Root will enter upon his new duties about the first of January. With the increased instruction which he will give in physical science, it is believed that the course of studies at Hamilton college will be just what the age demands. Alumnus.

The Boston Poultry Show.

This novel exhibition came off on the 15th and 16th of November last. The display of the different species and breeds of poultry, was extensive, and evidently regarded with much interest by the public. The Committee of Supervision, in their report, state that—

mittee of Supervision, in their report, state that—
"The number of specimens of the different feathered races, presented on this occasion, numbered 1423, and the number of exhibitors recorded was 219. The number of people admitted to the show, was not less than ten thousand. The sum of three hundred and sixty-four dollars was received at the gate, (the fee being 10 cents) notwithstanding the admission of ladies and children gratis."

The object of this meeting was to bring together specimens of the different varieties of poultry, that their peculiar traits might be seen, and their relative merits judged of by comparison. No prizes were offered—every observer being at liberty to award his own commendations as appeared to him proper.

We are happy to learn that annual exhibitions of this kind, are contemplated, under the auspices of a society, to be formed for the improvement of the different kinds of poultry, and the "increase and diffusion of knowledge" on this subject. Under such an organization, with the intelligence, taste, and capital, which may be brought to bear on the object, we cannot doubt that highly interesting and useful results would be obtained. The various breeds may be fairly tried, under circumstances calculated to fully develope their qualities; rare species and breeds, both in a domestic and wild state, from various quarters of the world, may be introduced; experiments in breeding instituted and carried on under competent directors, and every important fact carefully noted. In these ways, many doubtful questions would be settled, and much light elicited on physiological points, which have hitherto been involved in obscurity.

In regard to the present show, it may be remarked that the genus Gallus was largely represented; and in this class, the large Asiatic or Malay tribe of fowls, took the lead. They were offered under various names, as Chinese, Cochin Chinese, Shanghae, Java, Buck's county, Jersey Blues, &c. Their general characteristics presented but trifling variations, and their numerous titles afforded another illustration of the adage that there are sometimes "distinctions without differences." These fowls are very large, but are often thinly feathered, loose jointed, large boned, and coarse fleshed. Their defects are sometimes remedied by skillful breeding, and good stock has been thus produced. They have also been useful in many cases in crossing other varieties. A cock, ten months old, exhibited by C. B. Marsh, West-Roxbury, Mass., was said to weigh twelve pounds.

But of all the fowls exhibited, none, in our opinion, showed stronger marks of a true breed, than the Spanish, called in some instances Italian. They are uniformly of a glossy-black color, of good size, and handsome form—corresponding to the cut and description given of the breed in our last volume, page 84. A lot of twelve, so similar in every respect, that it was difficult to distinguish one from another, of the same sex, was shown by Daniel Buxton, Danvers, Mass.

From several exhibitors, there were fine specimens of Dorkings, Bolton Greys or Creoles, Games, Bantams, and Top-knots, of the Black, White, Golden

and Silver Spangled varieties. In addition to these, there were many fowls produced by various mixtures and crosses, some of which were singular, and others apparently valuable.

Turkeys were not numerous. Some wild ones, were shown by John Giles, of Providence, R. I. There were specimens of pea-fowls and Guinea-fowls-some of the latter entirely white. Of pheasants, there was only one pair; they were the English pheasant, and were shown by Col. Jaques, of the Ten-hills Farm. A pair of "French Partridges," (a species of grouse,) was shown by B. F. Dow, East Boston.

There were some very fine geese. Specimens of the wild, or Canadian, were shown by Hon. Dan. Webster; the Bremen by Col. Jaques; the large Chinese, (sometimes called African, Poland, Mountain geese, &c.,) the small Chinese, and the Barnacle, all shown by John Giles, Providence, R. I. The latter, were the first of the species we have ever seen domesticated. They appeared very tame, and attracted much attention. A pair of beautiful swans was also shown by Mr. Giles. There were but few ducks. Specimens of the celebrated Aylesbury breed, were shown by Mr. Giles. They are very large, and perfectly white. They Giles. They are very large, and perfectly white. They are greatly esteemed by the English epicures, on account of the whiteness and fine flavor of their flesh. A specimen of the beautiful wood, or summer duck, was shown by Edward S. Rand.

At the close of the exhibition, an auction was held, for the saie of poultry, at which everything really good, found a ready purchaser at a high price. Fowls good, found a ready purchaser at a high price. Fowls were sold at from \$10 to \$18 per pair, and some private offers, of even a higher figure, were refused.

The Committee of Supervision, in their report of this exhibition, have made some valuable remarks in relation to the importance of the poultry business, and have furnished some statistical facts which are deserv-We make the following extracts: ing attention.

The rearing of poultry, as will be shown, is certanly not the least important article of stock to the farmer. The article is readily converted into money, and is, probably, quite as readily prepared for market as any other

The amount of sales of poultry at the Quincy Market, Boston, for the year 1848, was six hundred and seventy-four thousand four hundred and twenty-three dollars. The average sales of one dealer alone amounted to twelve hundred dollars per weck for the whole year. The amount of sales for the whole city of Boston, for the same year, (so far as obtained,) was over one million of dollars.

Our convenience to the London market, by the aid of steamers weekly, enables the farmer, through the egg merchant, to make sale of his surplus eggs in that

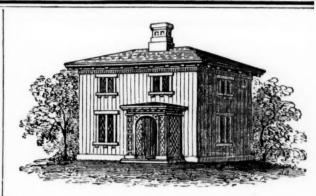
The amount of sales of eggs, in and around the Quincy Market, for 1848, was one million one hundred and twenty-nine thousand seven hundred and thirty-five dozen, which, at eighteen cents per dozen, (the lowest price paid 11½ cents, and the highest 30 cents per dozen, as proved by the average purchases of one of the largest dealer's books,) makes the amount paid for eggs, to be two hundred and three thousand three hundred and fiftytwo dollars and three thousand three undered and fifty two dollars and thirty cents. And from information already obtained from other egg merchants, in the same city, the whole amount of sales will not fall much, if any, short of a million of dollars, for 1848.

The average consumption of eggs, at three of the hotels, was more than two hundred dozen each day, for the year 1848.

year 1848.

The value of eggs brought from the Penobscot, and Kennebec rivers, during the running season of the steam boats, plying between sos.on and those two rivers, was more than three hundred and fifty thousand dollars, for that season.

One dealer in the egg trade at Philadelphia, the N. Y. market, daily, nearly one hundred barrels of eggs. It is estimated from satisfactory returns that the city of New-York, alone, expends nearly a million and a half of dollars, in the purchase of eggs.



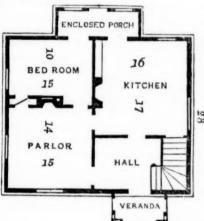
Suburban Cottage.

The accompanying design is by A. J. Downing, Esq., by whom it is thus described:

It is of very moderate size, intended to come within the means of those who have only a few hundred dollars to expend in a dwelling, who can afford little ornament, and who still desire to get something comfortable, and agreeable to the eye.

There is no effort at the ornamental in this design. It is simply getting the most convenient arrangement of the interior, in the most compact form, viz., that of a square. The little veranda, formed of lattice work, and intended for vines, is the only deci-ded approach to the ornamental, though the mere projection of the rafters, gives the roof something better than the usual common place character.

This design is intended to be constructed of wood, the weather boarding put on in the vertical manner, described in our first volume, and familiar to most of our readers.



First Floor.

parlor and bedroom,-all, indeed, that family wishing this kind of cottage, need on the first floor, so snugly arranged that not a step need be lost in the work. ing operations of the family. The entry or hall is larger

The plan of

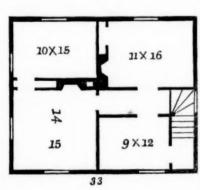
the first floor

shows a hall,

than is usual in houses of this size; and the enclosed porch, or back entry, serves to shelter the back door in winter, 20 FEET

and might, if preferred, be taken away altogether in summer.

The second stoplan shows an upper entry and four good bed rooms. The chimney flues are all drawn into one stack in the attic, and the roof is covered with The shingles. first story is ten feet, the second nine feet high.



Chamber Floor.

Farming vs. Manufacturing.

EDS. CULTIVATOR—As suggested by "Enquirer" in the November number of your paper, I admit that agriculture may be made the most happy pursuit of man; but whoever may engage in the pursuit, in the belief that it is now the most profitable, is destined to certain disappointment. That the profits of capital and labor in agriculture, have been greatly misunderstood, is too true. That they have been the subject of misrepresentation by superficial observers, who have based their estimates upon single acres, or single fields, is also too true. That this misunderstanding has been productive of much mischief, is sustained by too many examples to be for a moment doubted.

How many men under a missapprehension of the profits of agriculture, embark in that business, and through subsequent disappointment, abandon it in disgust, to engage in other pursuits? Influenced by misrepresentations, how many men are induced to abandon other occupations, to engage in that of agriculture, and when taught by experience of their error, have returned to their former employments, having sacrificed by their changes of business, the fruits of former industry and toil? Ignorant of the true principles upon which agriculture can alone be made profitable, how many farmers drag out their years of dull monotony, and leave to their heirs a worn out farm, encumbered with debts of years accumulation? To avoid such cases, it is important that the actual and relative profits of agriculture should be distinctly understood. Much of that required knowledge may be found in Professor Tucker's Progress of the United States, published in 1843, by Little and Brown of Boston.

In the 17th and 20th chapters of that work, the number of labourers employed, and the amount of income produced, is given in each of the great industrial pursuits of our country. By his tables the annual income of each agricultural labourer in the state of Maine, was \$156-in Massachusetts, \$183-in Vermont, \$244—in New York, \$237—in Virginia, \$186—in South Carolina, \$109—in Ohio, \$138—in Tennessee, \$139-in Mississippi, \$190-in Louisiana, \$288. By his tables it is also shown that the annual income of each manufacturing laborer in Massachusetts, was \$750, and that such income, after deducting the raw material, was \$510. The estimates of Professor Tucker, were taken from the census of 1840, and are eminently sustained by that of Massachusetts, taken in 1845. Take the cotton interest for an example. The capital stock invested in the state, in cotton manufacturing, was \$17,739,000. The value of the goods manufactured, was \$12,193,449. The value of the raw material, was \$3,900,000. There were 6,300 men, and 14,400 women employed as laborers, at an expense of about \$3,300,000, giving an income fully sustaining the estimates of Professor Tucker, and showing a net profit exceeding by at least four-fold,*

the most successful farming operations, not excepting the premium farm of the state.

It will be seen by these tables that the value of agricultural labor varies very materially in the different states of the Union. And it should be borne in mind that climate, soil, and location have done much in producing that variation. It should also be borne in mind that good culture has had much to do in producing that result; for instance, location giving superior market facilities, has given to labour a greater income upon the rugged soil of Massachusetts, than has been realized from that expended upon the virgin soil of Ohio. Location and climate allowing the growth of the sugar cane, (which is the most profitable of agricultural productions) has given to labor, a greater income in Louisiana, than has been produced in any other state in the Union. But it must have been good culture that has given to labor a greater income upon the inferior soil of Vermont, than that produced upon the superior soil of New York. And it must also be owing very much to good culture, that should have given to labour in Seneca county, so much greater income than has been produced in the residue of the state, or in any other state in the Union. If, then, good culture is so material in producing such different results, how important it is, that our farmers acquire a knowledge, and adopt the practice of giving it a universal appli-If location is capable of exerting so important an influence, how important it is that such effect should be modified by increased facilities of communication. If market facilities produce so material effect upon the profits of labor, how important it is, that our agricultural productions should enjoy the unrestricted market of the world. A FARMER. Hillsdale, Dec. 5th, 1849.

Fowls in Yards.

EDS. CULTIVATOR—You ask some questions relating to my aviary, answers to which are cheerfully submitted.

My usual number of fowls is one hundred. They are confined in an enclosure containing about half an acre, inclusive of ground occupied by the buildings, the dimensions of which are as follows: Forty-eight feet length and twelve breadth, with length of posts sufficient for the admission of twenty-four lighted windows, of which there are eight in front, sliding horizontally upon the sill. This building contains but one apartment. In addition, and communicating with it, is an upright post; at one end twelve by sixteen feet with nine feet posts, containing an underground room for fowls to collect in cold weather, and is accessible to them at all times. Above, on the ground floor, is a depository for sand, gravel, mortar from old walls, &c. &c., for daily use of fowls. The attic designed for a roosting apartment, which on account of the sharpness of the roofs, is roomy, as all sleep-ing places should be, at least for the health of fowls. A window in gable ends, is for lights and ventilation. The roofs to the main part, are also sharp, to turn the sun's rays in summer, and as a matter of taste and durability. The yearly average to each hen is not far from one hundred eggs. Young hens, say of the first or second year, are found more prolific than

Cocks have always been permitted to run with our hens, and consequently I have not the means of determining the particular results, from a separation, as regards the production of eggs.

As a general rule no strange fowls are admitted to the yard. We raise a yearly supply for home use.

I consider the Poland crested fowls to be a hardy variety, and perhaps the best for northern latitudes;

when young they afford more eggs in sucsession than common varieties

If I should find male fowls superior to my own, I would dispose of mine and introduce the strangers, after subjecting them to quarantine for a reasonable time. I have once done this with good effect.

I have had no experience in the treatment of diseased fowls, but if my fowls were diseased, I would give them passports with leave of absence, to go where fancy ruled. If in summer, I should look for returns from the fields, as autumn approached, with an increase of numbers perhaps; and with the rose of health upon their animated countenances. J. R. S. Verona, Nov. 6, 1849.

Good and Bad Management.

From the excellent practical address of R. G. Pardee, before the Wayne Co. (N. Y.) Agricultural Socicty, we extract the following:-

Be not afraid of book farming. If the best way of farming can be told, it can be written; and when you can learn and understand it as well as from the lips of a co-laborer. It is one of the shallowest prejudicies which ever crept into the mind of man, that a fact loses its power and value because printed in

I wish I could place the Genesee Farmer and the Cultivator in the hands of every farmer in our country, and I would be gladly responsible for the injury. Just discrimination, is of course necessary in reading any human writings; but where the editor of an agricultural journal admits one error into his paper, a thousand are propagated from the lips of neighbor to

neighbor, among agriculturists.

Again, sence and water your farm, so as to save as much valuable time as possible. Much more than many farmers are aware of, is gained or lost in this way. One of your number has directed my attention to one of our best farmers who went on to his farm some years ago, and found it without plot, without fences of any value, and without water. In a few short years, he had so planned and fenced his farm, and by the help of a very small spring he brought to light, and a few logs, he had so watered it, that he could pasture his flocks and herds on any part of his large farm, and give them easy and constant access to water, without stepping but a few rods from his dwelling. Of course he saved a vast amount of time, to improve his land; and the man who can devise such liberal things, soon raised his farm to the very highest state of cultivation, as well as order, and grew rich. His neighbors who preceeded him many years, and selected better soil, with streams of water running through their farms, have never been able, even to this day, to devise any plan by which their flocks can be watered or pastured without using up one or two boys, if not one or two men, by their long pilgrimages. Of course their life is one continued scene of toil and drudgery; for it is all an up-hill business.

I will detain you only to name two or three things, that will be likely to endanger or prevent your com-plete success. First, your sloth. Man is said to be naturally indolent; but I need not stop here to prove to you, that this obstacle must be removed, or all your efforts will prove failures, and your inheritance in a short time resemble that dismal, but graphic sketch, drawn by the pen of the wise man, in the following language: "I went by the field of the slothful, and by the vine-

yard of the man void of understanding; and lo, it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall thereof was broken Then I saw and considered it well; I looked

upon it and received instruction: yet a little sleep, a little slumber, a little folding of the hands to sleep: so shall thy poverty come as one that travaileth; and thy want as an armed man."

The reverse of this description is vividly illustrated by Pliny, the elder, as follows: "Furius Cresinus, an emancipated Roman slave, having obtained from his very small estate much larger crops than his more wealthy neighbors from their vast domains; they became so envious that they charged him with employing enchantment to attract to his ground the product of their fields.

" Having been summoned by Spurius Albinus, and being fearful of condemnation, he introduced into the Forum, as the tribes prepared to vote, his robust and well-clad family, and his agricultural implements, his heavy mattocks, his ingeniously constructed plows, and his well-fed oxen, and then exclaimed: 'Behold! Roman citizens, my magic: but I am still unable to show you, or to bring into the market-place my studies, my constant vigilance, my fatiguing labors.' Scarcely had he concluded, when he was absolved by public ac

Second-A greater obstable to your success may be found in your unbelief Faith, says an eminent writer, "is the main-spring of human action." Washington had faith, firm faith, that his country must be free and independent, and therefore he determined to seek it, regardless of every obstacle, as long as he lived. principle, "according to thy faith be it unto thee," is

almost as infallible in nature as in grace.

You do not believe you can accomplish any good thing, and therefore you do not put forth any good ef You have no confidence in your own efforts to make things better around you, and therefore you allow your whole life to run to waste, and go down to your grave, leaving it scarcely perceptible that the world is any better for your having lived in it,-forgetting that many drops makes an ocean, and many sands the mountain, and many threads will bind the elephant Make even two spears of grass to grow where one grew before-ascertain the cause and note it down, and you may leave the embryo of a principle, that will clothe the desert with verdure, and bless the world.

American Pork in England.

Messrs. Allen & Anderson, extensive provision dealers in London, have sent to this country a circular in relation to the curing and packing of pork for the English markets. It contains useful information to persons engaged in the provision trade.

The circular states that the trade with England in this line has been generally an unprofitable one, chiefly on account of the inferior quality of the article. con, it is stated that the imports of American into Lon-

A considerable portion of which was soft, oily, inferior in quality; and to this circumstance, more than to the great quantity, the serious declension in prices, and consequent heavy losses to the shippers, are attributa-

The bacon best adapted to the London market, is singed sides, weighing 56 to 64 lbs. each. The first sent ont from this country last winter, is represented to have been of fair quality, and the meat of a good, firm texture; and as it was offered at much less price than the Irish, it found customers. But the subsequent arrivals were so soft, oily and inferior, that the Irish was again preferred, even at advanced rates, while the American became, and continued, a dull, dragging trade

-many of the best dealers abandoning the article altogether.

"Ice-cured singed sides, for shipments made during the summer heats, do not answer; the meat sustains in all cases an injury that lowers the price, and in some instances has done so to the extent of 50 per cent. Shipments of singed meat, by New Orleans, ought, for the same reason, to be avoided altogether, or made only in the months of December and January."

"Prime mess pork has been a losing article. Some few of the first arrivals of New-York and Baltimore brands came of prime quality, and brought remunerative prices. But almost all the Western brands have come particularly bad, defective in cure, wretched in color, and the meat soft and inferior. The chief defect in almost all American prime mess pork is the color. Instead of being the bright cherry red, characteristic of skilfully pickled meat, it is a dirty, dull unsightly brown. That this is remediable, and arises in the manufacture, is proved by some few brands coming otherwise. But unless it be obviated, the preference will continue to be given to Irish and Hambro, although inferior meat, at much higher prices."

Indian Corn in Tennessee.

MAJ. John McGaughey, in his agricultural address, delivered at Greenville, says he has raised 90 bushels of corn to the acre, and he thinks 100 bushels or more, can be produced. He makes the following calculation: Take an acre of corn and lay it off three feet each way, and leave two stalks in a hill, and it gives 9,680 stalks, suppose each stalk to produce one good ear, and every hundred ears to make a bushel, it would make a fraction over 96 bushels. Again, take an acre of ground and lay it off 4 feet wide for planting in the drill, drop your corn one grain in a place, 12 inches apart, and it gives 10,890 stalks, which at the same rate would make over 108 bushels. But it would be reasonable to suppose that upon the acre laid off three feet each way with two stalks in a hill, that every three stalks, if well cultivated, would upon an average, produce 4 good ears, which would make 129 bushels.

Reclaiming Sandy Land.

OBED BROOKS, Jr., of Harwich, Barnstable county, Mass., gives the officers of the Agricultural Society of that county, some interesting facts in regard to his experience in reclaiming "blowing sands." He states that much of this kind of soil, with which Cape Cod abounds, can be readily rendered "pleasant to the eye and profitable to the cultivator." He says—"by a slight dressing, and by proper cultivation, they may be made to produce a good crop of corn the first year, and by laying down to grass in the fall, they may be brought into good pasturage. Moreover, by setting upon the borders of the enclosure, the silver-leaf poplar—a tree exactly adapted to loose and sandy soils, and not liable to be eaten by cattle—they may be made to improve the appearance of any village, and give an air of thrift and beauty to the waste places of the cape."

Mr. B. bought a lot containing eleven and a half acres, in the spring of 1847, which was then regarded as completely worn out, and had already begun to blow. He gave only \$80 for the whole lot, and it had previously been offered at a much less price. He fenced it with cedar posts and chestnut rails, at a cost of \$70. He has used no manure in the cultivation. He plowed it deep, and on the 19th and 20th of May, 1847, planted it with corn, in hills four fect apart each way. He used the cultivator at every hoeing—which

was four times—running it very deep, twice in a row both ways. At the second hoeing, pulled all except two plants in a hill. At the last hoeing, 25th August, sowed rye, oats, and grass seed, putting on to the acre twelve quarts rye, sixteen quarts cats, eight quarts herds grass or timothy, twelve quarts red top, and eight pounds clover seed. He raised from this field 156 bushels of corn of excellent quality, which sold readily at 85 cents per bushel, and 33 bushels potatoes. The crop of rye taken off the next year, measured 55 bushels. The grass seed took well and has brought the field into a fine sward and good pasturage.

He makes an exhibit of all the expenses he has laid out on the land up to the 16th of October, 1849, and credits the value of the crops he has taken off; from which it appears that the cost of the 11½ acres of land, as now feaced and improved, is \$8,57.

Breeding Horses.

The report of the committee on horses, for the Chittenden County Vt. Agricultural Society, contained some good remarks. In addition to the hereditary transmission of qualities, it observed, "The progeny will inherit the united qualities of their parents. The good as well as the bad qualities will descend from generation to generation. Hence you will see the importance of a knowledge of the parentage, not only as to the sire but also as to the dam. Peculiarity of structure and constitution will also be inherited. This is an important consideration, though too much neglected, for however perfect the sire may be, every good quality may be neutralized, if not overcome by the defective structure of the dam. Let the essential points be good in both parents; but if there must be some minor defects in the one, let them be met and overcome by excellencies in those particular points, in the other parent. We would also advise you, to let your breeding mares be in the full vigor of life. Do not put them to the horse too young, and especially do not let your mares be incapacitated for work by reason of old age. If so, you may expect that the foal will have a corresponding weakness, and scarcely will a single organ possess its natural strength. Our farmers are usually too negligent in the selection of their mares. They are tempted to part with their best mares, and to breed from those which are inferior."

The committee speak of a young horse of the Morgan stock, bred by judge Bennett, as having "great compactness of structure and action of the best kind."

Extracts from Agricultural Addresses.

INFLUENCE OF AGRICULTURAL PERIODICALS. - Agricultural reading is another subject to which I would call your attention. Papers designed chiefly for these interested in farming pursuits, engaging as they do the best intellect and most practical talent in the land, must be a store-house of interesting and useful knowledge. They are moreover, our common medium for interchanging thought and opinions, and for communicating from one to the other, our useful discoveries. Though the ignorant and penurious may spurn such means of gaining intelligence; yet, it is observable and encouraging, that among the more intelligent far-mers, are always to be found the best patrons of our Agricultural prints. And where the land is in the highest state of cultivation, and the domestic arrangements are of the most agreeable character, you will discover intelligence to use and appreciate those publications which are designed to bring conveniences and improvements to their farms and dwellings. Go the country over and you will see that, in all the cases of failure in realizing a fair profit from the farm, there

nas not been wanting the requisite capital, the energy, the bone and muscle, so much as the desirable intelligence to give a right direction to their other powers. The maxim, "knowledge is power," is applicable in no case more than in that of farming.—Address of Moses Eames before the Jefferson county Agricultural Society.

I would say to every farmer, take a good Agricul-tural Journal, read it, study it, ponder upon it, make yourself not only familiar with its contents, but strive to understand the subjects of which it treats through other sources. You will thus be kept acquainted with agricultural improvements, and will constantly be made to feel the necessity of a more thorough understanding of your occupation. It will lead to the study of soils, and the nature of the plants which they produce; the adaptation of different manures to each, the food which the various vegetable substances require, and the best method of administering it, so as to produce health and vigor of fruit; the means to be employed that the harvest may realize your anticipations, the qualities of the different kinds of stock, the usefulness of new agricultural machines, and a variety of other subjects which require your investigation. Through it you commune with the leading spirits in your vocation. You behold what experience, un-wearied patience, and the application of powerful minds, have accomplished. It will afford you instruction in all the different departments of your business, and prove a valuable guide to your progress. These benefits will not acrue from a bare cursory perusal of it. If sketched over like an ordinary newspaper, for the purpose of amusement, and then thrown aside to be forgotten, it will scarcely pay the price of subscrip-It should be read with the interest excited, "with the spirit and the understanding," and with a disposition to profit by its teachings.—Address of James M. Banks, before the Chenango county Agricultural Society.

Kindred to, and of equal importance with agricultural societies, are the benefits to be derived from agricultural papers, for one or more of which no farmer should fail to subscribe. By their means improved agricultural implements—the making and application of manures—the introduction of new varieties of fruits and vegetables—the most approved breeds and principles of raising stock—the best rotation of crops—in short every species of information that is valuable to the farmer is spread out before him.

I have seen in some of your fields, improved implements of husbandry and labor-saving machines, your first idea of which was derived from the Cultivator; and the construction of which you yourselves superintended in the workshop of a neighboring mechanic. One of your number told me not long since, in his harvest field, that he had derived one hundred dollars benefit from this paper in the two years he had taken it.—Address of Thos. B. Watson before the Clinton county Agricultural Society.

FARMERS' DWELLINGS.—We need a great improvement in this respect—we need a distinctive Rural style of building—comfort and convenience combined with neat and simple elegance. Nothing expensive, gaudy or obtrusive, but graceful in form, chaste in ornament, with quiet, neutral colors sweetly blending with the surrounding green, all breathing an air of peaceful, calm repose on which the eye may rest with pleasure. I would gladly enlarge upon this, did time permit. The house should not only be sheltered but adorned with trees—none more beautiful than those of our own

A few choice fruit trees of various kinds, with grapes and smaller fruits which need but little care, with flowering shrubs and ornamental climbers should

forests

be there. None of the adornments of beauty are mode graceful or attractive than fragrant and blooming vines around the rustic porch. And—let there be a garden too, it need not be a large one—not the unsightly patch of neglected earth sometimes so miscalled, intended for potatoes and cabbages, but filled with burdock and nettles, but a neatly arranged plat for shrubs and flowers, laid out with taste and kept with care—cultivate a taste for flowers, and teach your children to love them. In doing so, you give them new sources of pleasure—new facilities for enjoyment. And do not deem the time they bestow upon them, lost time; it is well bestowed, and will yield a rich return in pure and simple joy, and the cheerful love of home. Address of T. D. Burral, before the Ontario Agricultural Society.

New-York State Agricultural Society.

The annual meeting of this Society, for 1850, will be held at the Capitol in this city, on Wednesday the 16th of this month, to continue two days. The annual address, by the President, Hon. John A. King, will be delivered on the evening of the 17th; and it is expected that Prof. Johnston of England, whom the Society have engaged to deliver a course of Lectures here during the winter, will deliver a lecture on Wednesday evening the 16th.

In addition to the awarding of premiums on essays, farms, grain and root crops, butter and cheese, an exhibition of winter fruits will be had at the Agricultural rooms. This exhibition, last year, was very superior, and it is hoped that an equally fine display will be made this winter. Persons who are willing to aid in this exhibition, are requested to have their fruit properly labelled with its name, and the name and residence of the exhibitor, and securely packed and directed to the Secretary, Agricultural rooms, Albany, and sent at as early a day as practicable.

ed to the Secretary, Agricultural rooms, Albany, and sent at as early a day as practicable.

At a meeting of the Executive Committee, on the 13th of December, the following gentlemen were appointed Judges to award the Premiums, at the winter meeting of the Society:

Management of Farms—Samuel Cheever, Saratoga; B. B. Kirtland, Rensselaer; David Sill, Washington.

Butter and Cheese Dairies—B. P. Johnson, Albany;
Joseph Cary, do.; Levi T. Marshall, Oneida.

Essays, Draining, and Agricultural Work for Common Schools—John Delafield, Seneca; John P. Beekman, Columbia; George Geddes, Onondaga.

Butter and Cheese Exhibition—Henry Wager, Oneida; G. J. Barber, Cortland; Samuel Cary, Albany. Fruit—Herman Wendell, M. D., Albany; Lewis F. Allen, Erie; Sanford Howard, Albany; Henry Vail, Rensselaer; Charles H. Tomlinson, Schenectady.

FIELD CROPS.—Wheat and Rye—Alonzo Upham, Genesee; J. B. Burnet, Onondaga; D. S. Curtis, Columbia.

Indian Corn—Wm. Newcomb, Rensselaer; H. T. E. Foster, Seneca; James Rees, Oneida.

Barley, Oats, Buckwheat, Peas and Beans-J. W. Ball, Otsego; Luther Leland, Oneida; Martin Springer, Rensselaer.

Potatoes and Root Crops—Orlando Allen, Erie; C. D. Palmer, Waterville; John Foster, Hillsdale, Columbia co.

Corn Fodder, Flax, Hops, &c.—Wm. Buel, Monroe; Benj. Enos, Madison; Amos Briggs, Rensselaer. For Arrangements for Pomological Exhibition—J.

For Arrangements for Pomological Exhibition—J. McD. McIntyre, Albany; H. Wendell, M. D., do.; James Wilson, do.

James Wilson, do.

Committee on Treasurer's Accounts—Geo. Vail,
John A. King, Pres't, and B. P. Johnson, Sec'y

Motes for the Month.

To our Friends and Patrons.

We have the pleasure of presenting to our readers this month, a Double Number, -the additional 32 pages consisting of the PICTORIAL CULTIVATOR, which contains over One Hundred Engravings, consisting of about fifty Portraits of Domestic Animals, including Horses, Cattle, Sheep, Swine, and Poultry-twelve views of Houses and Barns-sixteen figures of Fruits-seventeen of Implements-ten of Ornamental Structures, and a great variety of miseellaneous articles. It is intended to form the first sheet of this year's volume, and the regular number is paged consecutively with it.

Our readers will perceive that we commence with the present number, a series of Letters from Prof. NORTON of Yale College, who it gives us pleasure to state, will continue them through the year. We are not less gratified in being able to announce that Mr. Holbrook, to whom we are indebted for many very valuable papers given in our last volume, will continue his contributions. With these aids, in addition to those of Mr. Howard and Mr. Thomas, and a numerous list of correspondents, the publisher trusts that he will be enabled to fulfil all reasonable expectations, and to furnish such a journal as will richly deserve a place in the hands of every farmer and his family.

To Agents and Postmasters.

As an inducement to greater exertion on the part of those disposed to act as Agents, the following PREMIUMS will be paid in Books, or in Implements or Seeds from the Albany Agricultural Warehouse, to those who send us the largest lists of subscribers for this year:

1. To the one who shall send us the largest number of subscribers the Cultivator for 1850, with the pay in advance, at the club rice of 67 cents each, previous to the 20th of March next, the sum of LETY DOLLARS. price of 67 cents each FIFTY DOLLARS.

2. To the one sending us the next largest number, the sum of FORTY DOLLARS.

3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.

For the next largest list, the sum of TWENTY DOLLARS.

For the next largest list, TEN DOLLARS.

6. For the Five next largest lists, each FIVE DOLLARS.
7. For the Ten next largest lists, each THREE DOLLARS.

In addition to the above, a copy of Thomas' " AMERICAN FRUIT CULTURIST," price one dollar -a very valuable work, just published-to every agent who sends us Fifteen subscribers and \$10, and who does not obtain one of the above prizes.

Agents who compete for our premiums, will aid us in keeping their accounts, if they will num. ber their subscribers, 1, 2, 3, and upward.

In answer to several inquiries, we would state, that it is not required that all papers in a club should be sent to one post office. We will address them to as many different offices as may be necessary.

COMMUNICATIONS have been received since our last, from Prof. J. P. Norton, P., R. H. Drake, C. H., Oliver Harmon, C. Fredericks, A Subscriber, A Farmer, A Subscriber, Jas. R. Hammond, F. Holbrook, S. P. Chapman, Alumnus, Wayne, A Practical Farmer, L. Durand.

BOOKS, PAMPLETS, &c., have been received as

follows.

follows:

An Address delivered at the Annual Fair of the New-Haven County Horticultural Society. Sept. 26, by S. B. Parsons—with the Transactions of the Society.

Letter to Hon. John M. Clayton, Secretary of State, enclosing a paper Geographical, Political, and Commercial, on the Independent Oriental Nations, and containing a Plan for extending American Commerce in the East, by Aaron H. Palmer.

Report of the Autumnal Exhibition of the Cincinnati Horticultural Society, for 1849.

Address before the Kalamazoo County (Mich.) Ag. Society, Oct. 11, 1849, by J. R. Williams.

Catalogues of the Officers and Students of Harvard, Vale, and Hamilton Colleges, for 1849—50.

Agricultural Address of Maj. John M'Gaughey, at Greenville, Tenn., from E. Link, Esq.

Address on the Progress and Improvements that have been made in the Mechanic Arts, before the American Institute, by Rev. John Aleurts.

ALBURTIS.

Address before the Norfolk (Mass.) Ag. Society, on the occasion of its first exhibition at Dedham, Sept. 26, 1849, by Hon. MARSHALL P. WILDER, President of the Society.

LIBRARY OF THE LATE MR. COLMAN.from John W. Proctor, Esq., that the officers of the Essex County (Mass.) Agricultural Society, have purchased from the library of the late Rev. H. COLMAN, about 500 volumes, relating to agriculture, some of which are rare and valuable. The Society designs to make this the foundation of an extensive and select library for the beneft of the members.

IMPORTATION OF SAXON SHEEP .- Messrs. D. W. CATLIN, of New-York, and CHAS. B. SMITH, of Wolcotville, Ct., have lately imported 20 Saxon sheep from the flock of Baron de Speck, Leitchena, near Leipsic, Saxony, the same gentlemen from whom Messrs. Catlin & Smith received a lot last fall. They are said to combine every requisite, in a fine sheep, fine form, good constitution, compactness and weight of fleece, and fine ness of fibre. We are informed that ten more sheep from the same flock are daily expected.

ATMOSPHERIC CHURNS .- Most of our readers are probably aware that there have been various churns introduced under this name, within a few years. have, on a former occasion, noticed some trials which have been made with some of this kind; and in reference to the butter produced by them, have stated that it did not appear to be of as good a quality as that made in other churns. This is corroborated by Mr. B. A. HALL, of New Lebanon, N. Y., whose reputation as a dairyman is well known. In a communication to the Boston Cultivator, he says-" The introduction of atmospheric air into churns, having the effect that its advocates claim, (viz. quick churning,) has a decided tendency to injure the butter."

THE WAGENER APPLE.-We are informed that Mr. CHAS. LEE, of Penn-Yan, by whom this fine apple was brought into notice, has disposed of all the scions he has to spare of this variety, to Col. E. C. FROST, of Catherine, Chemung county, N. Y., who, it is stated, has now growing in his nursery, several thousand trees of this kind, all grafted from unmistakable sources.

GLUE NOT DISSOLVED BY ALCOHOL. - A correspondent, "S. S.," of Philadelphia county, Pa., informs us that having seen it stated that common glue dissolved in alcohol, was an excellent and convenient article, he concluded to try it, but could not make the two substances mix. He says, "I let cold alcohol stand for weeks upon glue-boiled glue in the spirits-let them stand for a week together in a sand bath on a cooking stovemelted the glue and tried to mix hot alcohol with itdid ditto and tried cold alcohol, and every effort resulted the same, viz: the glue staid glue, and the alcohol staid clear, pure alcohol."

AGRICULTURAL STATISTICS.—We learn that Dr. DANIEL LEE has been appointed to take charge of the agricultural matters pertaining to the U. S. Patent Office, and that he is to prepare a report to Congress, at its present session. We think this appointment a fortunate one. Dr. L.'s long connexion with the agricultural press, and his personal acquaintance with different sections of the country, together with the close attention which he has for many years devoted to the subject of agriculture, have particularly qualified him for such a station, and under his supervision, we shall confidently look for a document comprising a great amount of statistical and practical information, touching the resources and productions of the country.

AYRSHIRE CATTLE FOR OHIO.—Messrs. Wm. H-LADD and J. R. CUNNINGHAM, of Richmond, Jeilerson county, Ohio, have purchased of E. P. Prentice, Esq., of this city, his imported Ayrshire bull, which took the first premium in his class at the last show of the N. Y. State Agricultural Society, together with a fine three-year-old heifer and a heifer calf, of the same breed. They are excellent animals, and will prove a valuable acquisition to the dairy stock of the fine section for which they are destined.

HEREFORD CATTLE.—Several years ago, Mr. ED-WARD WELLS, of Johnstown, N. Y., purchased eight or ten head of prime Hereford cattle, and about the same time several head of fine short-horns. A short time since, we had the pleasure of seeing Mr. W.'s stock. Both breeds have done well in his hands; but from the greater hardiness of the Herefords, and their ready thrift on ordinary fare, Mr. W. inclines to give them the preference. He is confident, that as grazing stock, they will give a greater return for the food consumed, than any other stock he has ever kept. He has some very superior animals of this breed.

Suffolk and Middlesex breeds of Swine.—In our late excursion to Massachusetts, we frequently saw specimens of these excellent breeds, and crosses between them. They were first introduced by Mr. Wm. Stickney, of Boston, who has made several importations of them. He breeds them chiefly at his farm in Vermont; but he showed us a fine boar and a young sow at his place at Cambridge. W. O. Bartlett, Esq., of Worcester, has some excellent stock from crosses of these breeds. Col. Jaques, of the Ten-hills Farm, Somerville, has some prime pigs from a cross of the Suffolk and Mackay. We are informed that pork from hogs of these breeds, readily sells in Boston at a cent and a-half per pound above the average market price. They fatten easily at any age.

Rensselaer Institute.—We learn that the friends of this institution are making efforts for its enlargement, and its improvement in other respects. We trust these efforts will be successful. There is no other institution in the country, we believe, which is organised with special reference to giving the student in civil engineering a thorough and systematic course of training. We understand that the institution now numbers about fifty students, about one-third of which come from our own state, and the remaining two-thirds from various other states. The sum required for immediate use, is between five and six thousand dollars; and we cannot doubt that the usefulness of the institution is so well appreciated by the public, that the necessary funds for carrying out the proposed improvements, will shortly be raised.

New Edition of the Farmer's Encyclopedia.— Grazing," and for many years an A new edition of this valuable work has been issued English agricultural periodicals.

by Messrs. Carev & Hart, Philadelphia. It is elegantly bound, and forms a very handsome volume of near 1200 pages. It is especially valuable to the farmer as a book of reference.

SAMPLES OF WHEAT FROM MOROCCO.—We have just received from our Consul-General at Tangier, Thomas H. Hyatt, Esq., samples of six kinds of wheat grown in that country. Its appearance is not very promising, but we shall give it a trial.

Form of the Plow.—Mr. John D. Spinner, of Herkimer, N. Y., says, "I wish to call the attention of plow-makers to a very common defect in plows. For loose, mucky soil, they are, as a general thing, too hollow in the mould-board, and too low in the beam, just forward of the body of the plow. They should be made more full, and higher, to let the earth slip from them. The iron used in their manufacture should be of the best kind, that it may wear smoothly and cause the plows to clean themselves."

POTATO ROT.—Mr. C. FREDERICK, of Paterson, N J., informs us that some potatoes on his farm which had Indian corn growing in the same hills, escaped the rot, while the rest of the potatoes in the same field rotted. We have heard this suggested as a preventive. before, but have also heard of several cases where it had no effect at all.

FINE FOWLS.—The fowls advertised by Mr. Platt, in this number, are worthy the notice of amateurs in this line. As a curiosity and ornament to the poultry yard, nothing can excel these Bantams, in their way. They may be said to be a perfect fowl in miniature In regularity and beauty of plumage, some of them almost equal a wild fowl, and indeed it is probable that at no distant day, their progenitors were inhabitants of the jungles of India. Mr. P.'s large fowls are equal in shape and apparent good qualities, to any we have seen.

Industrial Show of Nations.—We learn from the English papers, that at the suggestion of Prince Albert, and, it is understood, under the patronage of the Queen, a grand exhibition of the industrial products of all nations is to be held in London, in 1851. It is remarked, that "the parentage of the project, and the auspices under which it is introduced to the attention of the public, will so far ensure for it all the success that can be desired." The subjects of the exhibition are to be fourfold, viz: raw materials, machinery and mechanical inventions, manufactures, sculpture and plastic art in general.

The exhibition will probably be the most splendid affair of the kind ever witnessed in the world. It is proposed to raise £100,000 for the general expenses. The prizes are to be one money purse of £2,000, four of £1,000 each, and several costly medals, which are to be conferred by the Queen in person. We shall notice the list of prizes, which it is presumed will be brought out in due time.

Subsoil Plowing.—Mr. Buckminster, of the Mass. Plowman, relates his mode of subsoil plowing, by which a saving of manual labor is effected. Instead of taking two teams,—as is usually done in this kind of plowing, requiring two drivers and two plowmen, where more than one yoke of oxen, or a pair of horses are used to each team,—he put the teams together, and fastened the subsoil plow to the other, by hooking the chain round the coulter. One man drove the teams, each plow having a holder, and the work was done as well and as rapidly as before.

The late English papers announce the death of C. HILLIARD, Esq., author of "Practical Farming and Grazing," and for many years an able contributor to the English agricultural periodicals.

Lectures by Professor Johnston, BEFORE THE N. Y. STATE AG. SOCIETY.

Syllabus of a course of Lectures on the general relations of science to agriculture, by JAMES F. W. JOHNSTON, F. R. S., &c.:

1st. The Relations of Physical Geography to Practical Agriculture.

2d. The relation of Meteorology to Practical Agriculture.

3d. The relation of Botany and Zoology to Practical Agriculture.

4th. General relations of Geology to Practical Agriculture.

5th. Relation of Chemistry to the soil, and its

practical improvement. 6th. Relations of Chemical Physiology to the plant and the modes of promoting its growth.

7th. Relations of Chemical Physiology to the animal, its food and its growth.

8th. Relations of Chemistry to the Doctrine of

9th. Means by which general scientific knowledge may be diffused and made available for the improvement of practical agriculture, and the general elevation of the agricultural class.

The Lectures will commence early in January. B. P. Johnson, Secy.

Rot in Potatoes.

CHAS. W. TAYLOR, Esq., of Trevose, Bucks Co., Pa., writes-" I hope you have been more fortunate with potatoes this year than we have in this neighborhood. The rot is by no means extinct. Out of 3 or 4 different plantings, our earliest only escaped. I suppose two-thirds of the remainder were affected; but we do not lose them entirely as we feed them to our stock as soon as we see the slightest symptoms of the disease. I obtained some seed from the Rev. Nathan Smith, of Buffalo, N. Y., last fall, and had them sown in a hot-bed this spring, and planted out as soon as they were of suitable size. They were planted in trenched ground, tolerably manured from the horse stable. grew well, and the tops remained green until quite late in the season. Mr. S. informed me that I might expect to have them attain the size of walnuts the first year of the growth, but a very considerable proportion of them were three to four times as large and bore as many as twenty tubers, counting from the largest down to about the size of a hickory nut, leaving a number of smaller uncounted. After this, I am sorry to add that I think they rot as badly, or even worse, than any of our other kinds; although, in my estimation, in regard to time of planting, manure, situation, &c., they had the advantage in every respect. It is becoming somewhat doubtful now whether we shall save enough to plant again of some of the kinds."

How to Raise Indian Corn.

EDS. CULTIVATOR-I have tried nearly all the ways recommended for raising Indian Corn, and have found the following to be the best. In the spring, I haul all the manure I can spare on some piece of sward ground, and put it in heaps. I defer plowing till near the time of planting, when I spread the manure, and turn it under with much care. I then roll it with a heavy roller lengthwise of the furrows and harrow it well the same way. I mark it out both ways, three feet and four inches, plant the corn about an inch deep and use the cultivator three times both ways. At the second time of going through it with the cultivator, I large. In beef there is not much doing.

follow with the hoe and clean out all the grass and weeds in the hill, but I never haul dirt to the corn. I make no hill, as I think it does more hurt than good; and at the time of gathering my crop the ground is as smooth and level nearly as an oat or rye field.

I have pursued the above method for three years, and have usually reaped about 50 bushels of shelled corn to the acre. The last season I raised at least 75 bushels of shelled corn to the acre, by the same method. I can now raise from 50 to 75 bushels to the acre, as easily as I formerly could 15 to 20, and it is all through the information I have received from the Cultivator. A PRACTICAL FARMER. Westchester county, N. Y., Dec. 1, 1849.

Care of Stock.

EDS. CULTIVATOR-One of the principal employments of farmers in winter, is in taking care of stock. It is one thing to let stock shift for themselves, and quite another thing to take care of them. The difference is, that in one way your stock is brought out in good condition in spring, while in the other they are, if brought out alive, mere skeletons with skins on.

The advantages of sheltering animals by stables and sheds, are better understood now than formerly; although the old practice still lingers on some farms, where the shivering and bellowing animals speak for themselves, as to its effects. The old plan of stacking hay about the farm, and feeding it to animals in winter, with only a rail fence for shelter, is sometimes seen at the present day. If the ghosts of animals which have died for the want of shelter, could haunt the imaginations of these careless farmers, it might, perhaps, cause a change in their management.

Stacking out hay and fodder, causes waste enough in a few years, to pay for building good barns, sheds, and shelters for hay and animals. Sheds, high and dry, closed at the north, east, and west, and open at them sufficient air, and is better for their health than The worst storms for sheep, in New close stables. England, are the cold rains with easterly winds; and if they are not sheltered, they are drenched through, and when the weather changes to cold, the wool freezes on them; and if they are in low flesh, death is often the consequence. L. DURAND, Derby, Ct., Dec., 1849.

HANDLE your tools without mittens, for a cat in gloves catches no mice.

Prices of Agricultural Products.

New-York, Dec. 15, 1849.

FLOUR—Genesee, per bbl., \$5—Fredericksburgh, \$5a\$5.06. GRAIN—Wheat, Canadian, per bush., 105c.—North Carolina red, 94c.—Corn, Northern and Jersey, 54a58c.—Rye, 59½a60c.—Barley, 62a65c.—Oats, 44a45c.

REMARKS-The demand for flour is fair, and good brands are firm. The present low rates, cause some inquiry for exports. There is but little inquiry for corn or corn meal. The demand for mess pork is

Books for Rural Libraries.

Books for Rural Libraries.

THE following works are for sale at the office of The Cultivator, No. 407 Broadway, Albany:

American Agriculture, by R. L. Allen, \$1.

Bee-Keeper's Manual, by Miner, \$1.

Fruit Culturist, by J. J. Thomas, \$1.

Shepherd, by L. A. Morrell, \$1.

Poulterer's Companion, by C. N. Bement, \$1

Veterinarian, by S. W. Cole, 50 cents.

Farmers' Encyclopedia, \$4.

Flower Garden Directory, by R. Buist, \$1.

Agricultural Chemistry, by Prof. Liebig, \$1.

"by Prof. Johnston, \$1 25.

"by Prof. Johnston, \$1 25.

"by Chaptal, \$50 cents.

Cottage Residences, by A. J. Downing, \$2.

Domestic Animals, by R. L. Allen, 75 cents.

Domestic Family Receipt Book, by Miss Beecher, 75 cents.

Fammers' Manual of Manures, by F. Falkner, 50 cents.

Fruits and Fruit Trees of America, by A. J. Downing, \$1.50.

Farmer's Companion, by Judge Buel, 75 cents.

Landscape Gardening, by A. J. Downing, \$3.50.

Practical Treatise on the Culture of the Grape Vine, by J. F. Allen, \$1.

Cole's American Fruit Book, 50 cents.

Practical Treatise on the Culture of the Grape Vine, by J. F. Allen, \$1.

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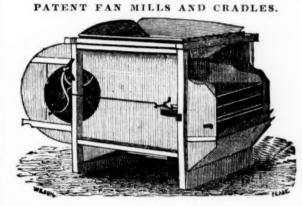
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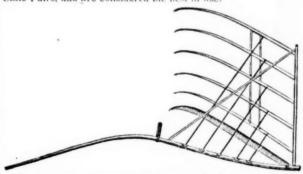
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